Meet the Five Users From Hell: Get the rundown on those difficult IT customers who drive you to distraction – and some tips on how to deal with them. PAGE 30

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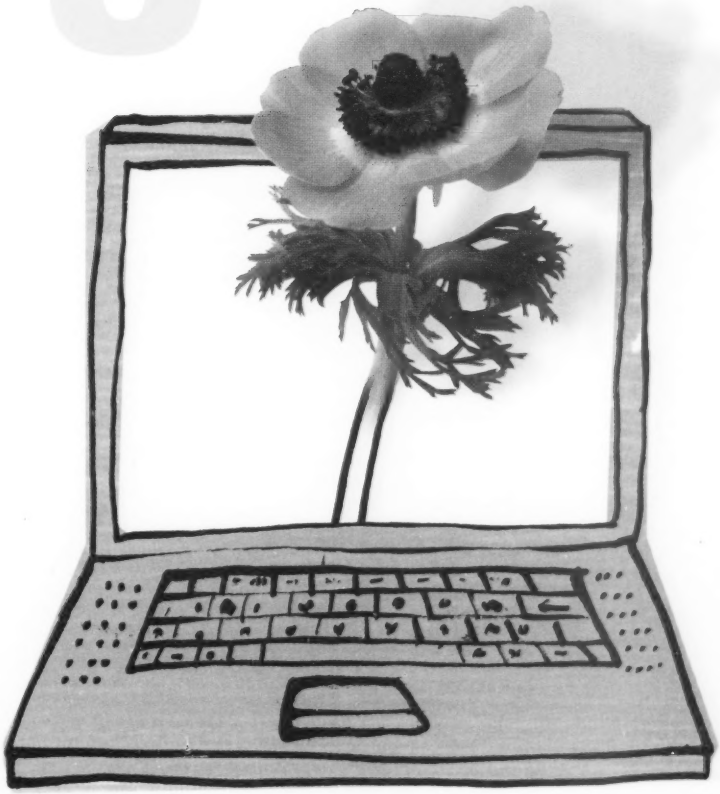
5 Tips for a Leaner, Greener Desktop



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Learn how to cut back on power and expense in the front office.
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VOL. 42, NO. 6 $5/COPY

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Alternative Thinking About The Size of Blade Systems:

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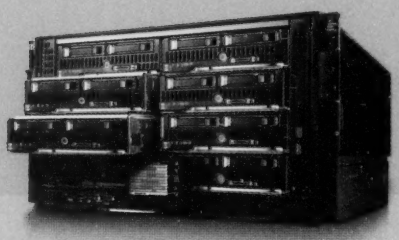

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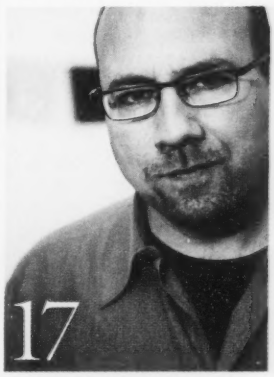

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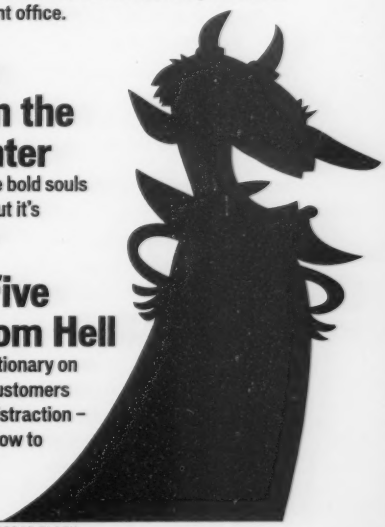
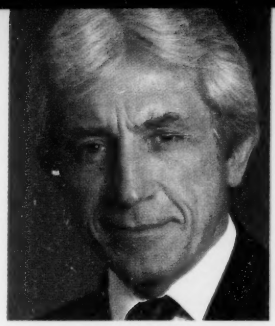


COVER ILLUSTRATION BY SERGE BLOCH

■ EDITOR'S NOTE

Don Tennant

Entitled to Nothing



IT'S SOMETHING that has intrigued me for years. I can't remember the last time I spoke with an IT executive who didn't list recruiting and retaining workers as one of his top five biggest headaches. And yet we can't write about those concerns without being inundated with letters from exasperated IT pros who are unemployed or underemployed, and who go ballistic at the notion of an IT labor shortage when it's been six months since they've gotten so much as an interview. So, where's the disconnect?

I posed that question last week to a number of people to help me prepare for a panel discussion that I'll be moderating at *Computerworld*'s Premier 100 IT Leaders Conference next month. Kristen Lamoreaux, an IT recruiter and founder of SIM Women, an affiliate of the Society for Information Management, was blunt.

"One of the sad things is that there is this entitlement mentality," she said, noting that the market has changed. "There are plenty of IT professionals out there. But the truly talented people that clients are seeking — that's the pool that's shrinking."

DeAndre Hodo, global director of IT infrastructure and operations at Littelfuse, a circuit protection products manufacturer, was even more blunt.

"It's not that there aren't people out there in the IT field that are willing or able to work," Hodo said. "It's: Do they have the aptitude, the ability to learn and work at the capacity that you know you need in your organization? That's the biggest problem: qualified talent vs. talent."

Hodo said he's found that qualified workers are a comparatively small subset of IT professionals, and that they have to be lured away from other companies. "They aren't those folks who are sitting on the bench," he said. "Because, quite frankly, that's probably why [those other people are] sitting on the bench."

According to Hodo, too many IT workers think they're qualified just because they have certifications or credentials. Citing the example of a company's network going down, he jokingly pointed out that there's no such thing as a network reinstallation disk that workers can turn to.

■ The IT profession isn't necessarily a good fit for everyone who goes into it.

"It's a very dynamic and fluid situation, and . . . you've got to be able to think on your feet. Cisco can't teach you that. Microsoft can't teach you that," Hodo said. Consequently, the IT profession isn't necessarily a good fit for everyone who goes into it.

"I know plenty of IT professionals who have completely left the field," Hodo said, "and are now truck drivers, mail carriers, doing somewhat more manual-labor jobs or jobs where you don't have to be thinking on your feet as much."

Lamoreaux, meanwhile, said she's seen a lot of people "bail" from the profession because of what she called "offshoring panic."

"One guy is now selling awnings, and he loves it," she said. "He's having a great time and making a success of it."

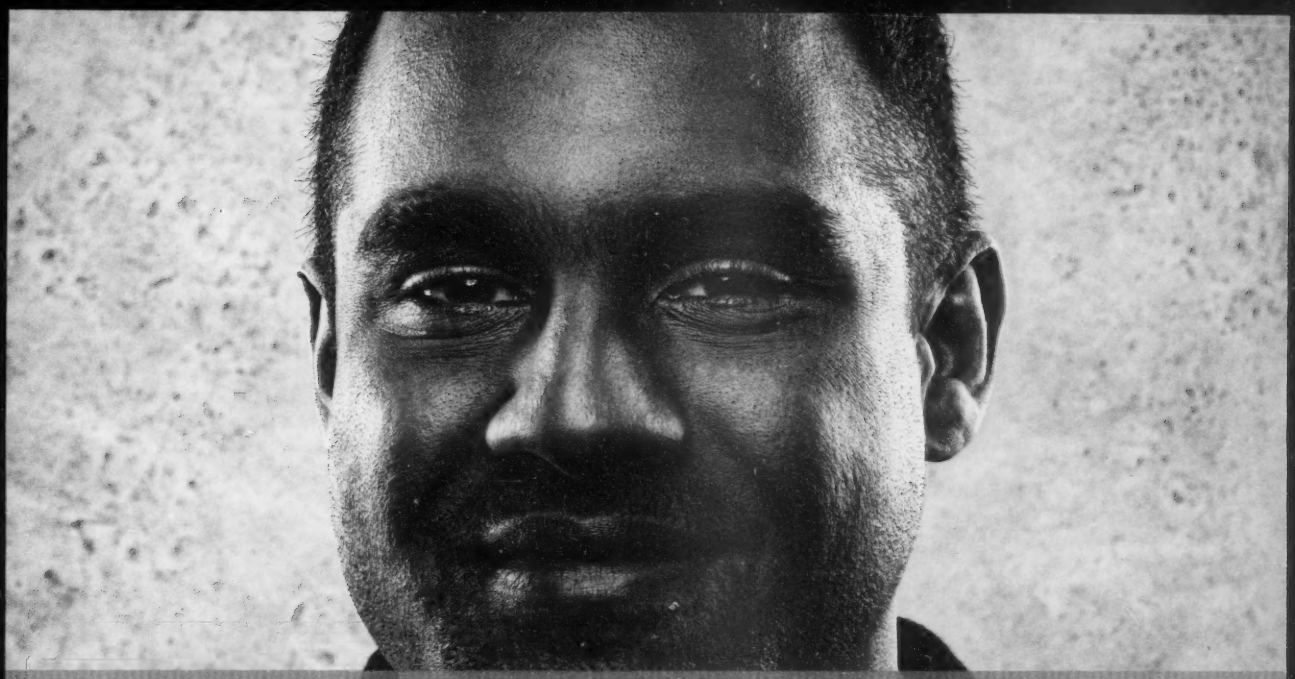
Is it a problem that so many people are leaving the IT field? Professor Ravi Aron of the University of Southern California Marshall School of Business doesn't think so.

Last October, I moderated a discussion on the future of the IT profession in the U.S. at the fall meeting of the UCLA Anderson School of Management IS Associates. Aron, who was one of the participants, was outspoken on the acceptability of IT jobs leaving the U.S. and moving offshore. He argued that the market should decide the composition of the country's IT community.

"Will it mean that some talented, bright folks will move from IT into [other fields] as they're now doing? Yeah, of course," Aron said. "So what? That is the strength of the U.S.: Constantly reallocate people and talent where it is most rewarded. We do not want to be North Korea."

Whether or not you agree with Aron, the fact remains that the competition for IT jobs is a global one, that quality is king and that you're entitled to nothing. The disconnect lies in the failure of too many IT workers to recognize that. ■

Don Tennant *is editorial director of* Computerworld *and* InfoWorld. *Contact him at don_tennant@computerworld.com, and visit his blog at* http://blogs.computerworld.com/tennant.



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■ LETTERS

Tired of Lame Quotes

Security expert Roger Thompson is quoted in the article "Flash Attack Could Take Over Your Router" [*Computerworld.com*, Jan. 15] as noting that online criminals haven't started using the Flash/UPnP attack. He may be correct, but since a negative can't be proved, it's hard to know if he is right.

The perpetually tiresome rationale that we needn't worry about a newly discovered attack vector because no one is exploiting it is just another example of having one's IT head in the sand. Reporters should not accept this rationale from the people they interview.

■ **Mark Walker,** *systems administrator, Albuquerque*

Reading Intent

I just read Don Tennant's Jan. 14 Editor's Note, "Crossing the Line," in which he decries government intrusions. When I got to the part about determining what people are thinking, I was reminded of a way to do just that.

At a dog show in Shreveport, a trainer demonstrated how he had trained his dogs to sense evil intent. Evidently, people smell different when they are going to hurt you or steal something. A man would horse around with the trainer, and even hit him, without arousing the dog's ire, but if his intent was to do real harm, the dog would growl.

I would have no objection to passing in front of a dog at an airport to aid security.

■ **Leonard Wiley,** *Marshall, Texas*

Kudos to Don Tennant for once again dealing with a controversial topic and taking a stand. Tennant's columns are one of the reasons I make the time to read *Computerworld* each week. And this is how we should work out the tough policy issues our country faces: with courteous discussion of facts and personal interpretation, and with honest acknowledgment of the gray areas and what those mean.

■ **Elizabeth Gray,** *business systems analyst supervisor, Austin Fire Department*

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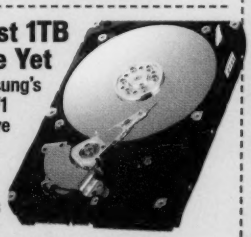
Touch-Screen Tech Finally Comes of Age

Touch-interface technology has been around a long time, but it may be at a tipping point now. Is it time to kiss your mouse goodbye?

The Fastest 1TB Hard Drive Yet



REVIEW: Samsung's 1TB Spinpoint F1 Series hard drive is fast – so fast that it beat the nearest competitor's access times by more than 11%. But formatting the drive with the latest version of Windows Vista took 37 hours.

Goodbye, Notebook; Hello 'Web Tablet'

OPINION: It's been a great ride, Craig Mathias says, but the notebook's days are numbered. The "everyone gets a CPU" model needs to be replaced by "everyone has access to the Web," he says, and a new type of machine he calls a Web tablet is just the ticket.

Rush Holt on E-voting

INTERVIEW: On the eve of Super Tuesday, the New Jersey congressman speaks about his efforts to improve verifiability.

The Long Haul: One Company's Migration to Vista

Unisys shares its experiences of the past 17 months.

News Digest

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THE WEEK AHEAD

TUESDAY: Microsoft begins a two-day conference focused on its Visio diagramming software in Redmond, Wash.

WEDNESDAY: Cisco plans to report its second-quarter financial results. Also due to release earnings reports are Nortel Networks on Tuesday and Alcatel-Lucent on Friday.

WEDNESDAY: The O'Reilly Money:Tech Conference opens in New York; the agenda covers the use of Web 2.0 tools and other emerging technologies within the financial industry.

WEB 2.0

IT Will 'Take Head Out of Sand' on Web 2.0 in 2008

CORPORATE IT managers who have long resisted implementing Web 2.0 technologies such as wikis, blogs and social networks will likely start adding them to their priority lists this year, according to a report released last week by Forrester Research Inc.

Of 119 companies that the research firm surveyed in the third quarter of 2007, 42% said they had no plans to invest in Web 2.0 technology. But Forrester predicts that about half of those companies will add it to their priority lists by the end of this year. Many of those firms had long called Web 2.0 technology "frivolous," but they will "take their heads out of the sand" this year, Forrester said.

"Is it the year for the perfect storm, where everything comes together?" said Josh Hilliker, community manager for Intel Corp.'s vPro Expert Center social community. "If you look at the tools that are out there and the business applicability, it is absolutely that time."

Intel launched the online community five months ago to solicit feedback from users and partners on the next generation of its vPro chips.

Hilliker said he is using the online community — the first one Intel has aimed at end users rather than developers — to show executives that Web 2.0 products can be used to tackle complex business problems.

"We produce reports once a week that talk about what is happening on the site, what it means [and] the tone of the community," said Hilliker. "I am keeping the managers, the executive vice presidents informed on what is happening. The IT shop, the executives . . . are deeply vetted in the activity. They're seeing real value."

Jo Sullivan, senior vice president of development and communications at the American Society for the Prevention of Cruelty to Animals, said that Web 2.0 technologies are a key part of the ASPCA's plan to increase traffic on its Web site by 120% in 2008.

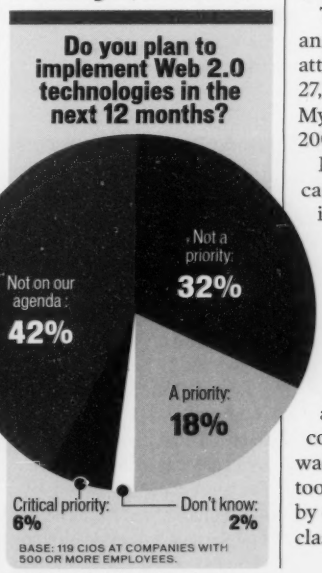
For example, she noted, a 90-second video posted on YouTube brings about 830 new users to the ASPCA's site each month, generating monthly donations of $18,000.

The New York-based animal welfare group is also attracting traffic from the 27,500 "friends" it had on its MySpace page at the end of 2007, she added.

In its report, Forrester called Web 2.0 a "high-impact, low-cost method" for IT managers to show leadership and innovation.

The report also predicted that CIOs are conceding "that they cannot quell passionate employees' use of consumer-oriented or software-as-a-service Web 2.0 tools and will mitigate risk by deploying enterprise-class tools in their stead."

— *Heather Havenstein*


Do you plan to implement Web 2.0 technologies in the next 12 months?
Not a priority: 32%
A priority: 18%
Don't know: 2%
Critical priority: 6%
Not on our agenda: 42%
BASE: 119 CIOS AT COMPANIES WITH 500 OR MORE EMPLOYEES.

SOURCE: FORRESTER RESEARCH INC.

DATABASES

Microsoft Says SQL Server 2008 Needs More Time

MICROSOFT CORP. isn't sticking to its release schedule for SQL Server 2008 after all. The company made timely shipping of the database upgrade a priority, after it took five years to develop SQL Server 2005. But it has pushed back the release date from the second quarter to the third.

Francois Ajenstat, SQL Server marketing director, didn't explain the delay in a Jan. 25 blog post, saying only that Microsoft's "goal is to deliver the highest-quality product possible."

> **We simply want to use the [extra] time to meet the high bar that you, our customers, expect.**
>
> **FRANCOIS AJENSTAT,** MARKETING DIRECTOR FOR SQL SERVER, MICROSOFT

A "feature-complete" test version of SQL Server 2008 will be issued as part of the Feb. 27 launch of the database, Windows Server 2008 and Visual Studio 2008, Ajenstat said. A "release candidate" will follow in Q2. And, he said, Microsoft is still on track to ship the database within three years of SQL Server 2005.

– ERIC LAI

ENTERPRISE SOFTWARE

Users Fear Oracle Will Drop Acquired Products

MOST USERS of business applications acquired by Oracle Corp. believe they ultimately will be forced to migrate to Oracle-built software, according to a survey of 449 members of the Oracle Applications Users Group.

The survey found that 61% of PeopleSoft and Siebel users think that Oracle will eventually push them to switch to Oracle-built technologies.

Ray Wang, an analyst at Forrester Research Inc., said the migration process has already begun for some users — Oracle's upgrades of the acquired software include parts of its own Fusion middleware.

"Each release of PeopleSoft is adopting more and more Fusion middleware components," Wang said. "Whether [customers] like it or not, as a price for paying for upgrades, they're going to get the latest Oracle technology."

Oracle built Fusion to link its myriad internally developed and acquired software products. Wang said the company hopes that adding Fusion to acquired products will make users less likely to turn to another vendor.

Customers who balk at paying for upgrades run the risk of paying exorbitant maintenance costs to support aging software that Oracle will eventually distance itself from, he added.

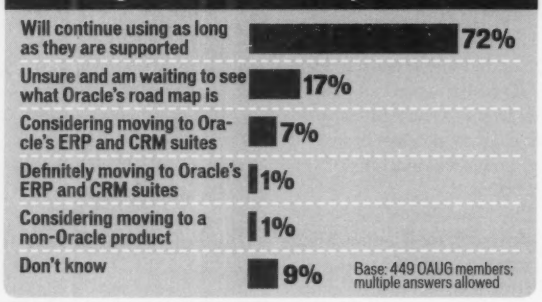
The Internet survey of OAUG members, conducted last October for the user group by Unisphere Media LLC, sought to clarify user attitudes about and plans for the Fusion middleware.

Robert Lepanto, president of the New York City Oracle Applications Users Group, noted that users also expressed fear that Oracle's $8.5 billion acquisition of BEA Systems Inc. earlier this month will blunt work on updating applications, despite assurances from CEO Larry Ellison that it will boost Fusion plans.

"There's always the question whether [the BEA acquisition] is going to dilute Oracle's attention from their existing products and services," said Lepanto, who is also Oracle applications manager at AppCentric Solutions LLC.

— Brian Fonseca

What are your plans for your systems in light of the Oracle acquisitions?


Will continue using as long as they are supported
72%
Unsure and am waiting to see what Oracle's road map is
17%
Considering moving to Oracle's ERP and CRM suites
7%
Definitely moving to Oracle's ERP and CRM suites
1%
Considering moving to a non-Oracle product
1%
Don't know
9%
Base: 449 OAUG members; multiple answers allowed

SOURCE: ORACLE APPLICATIONS USERS GROUP, OCTOBER 2007

Short Takes

A ship's anchor ripped two fiber-optic underwater cables in the Mediterranean Sea near Egypt, resulting in Internet traffic delays for some U.S. users trying to link to India and the Middle East. Repairs could take days.

Intel Corp. this week will offer a detailed look at a new processor at the International Solid State Circuits Conference in San Francisco. According to the conference program, the unnamed low-power 45-nanometer chip is designed for mobile Internet devices.

Motorola Inc. has announced that it may spin off its handset business, the weakest part of the wireless giant, which reported a $341 million fourth-quarter loss and recently shook up its management ranks.

Bernard Liautaud resigned as chairman and chief strategy officer of Business Objects SA, following the close of its sale to SAP AG last month. Liautaud founded the BI vendor in 1990 and was its CEO until 2005.

HARDWARE

CIO Sells School's Mainframe on eBay

PALM BEACH Community College bought an IBM zSeries mainframe for about a half-million dollars in 2005. Last month, the school agreed to sell it – for $40,000 on eBay.

IT systems "depreciate worse than cars," lamented Tony Parziale, CIO at the Florida college. Parziale has moved some of the school's business applications from the z890 machine to an Intel-based server that he said can deliver the same level of processing services at a much lower cost.

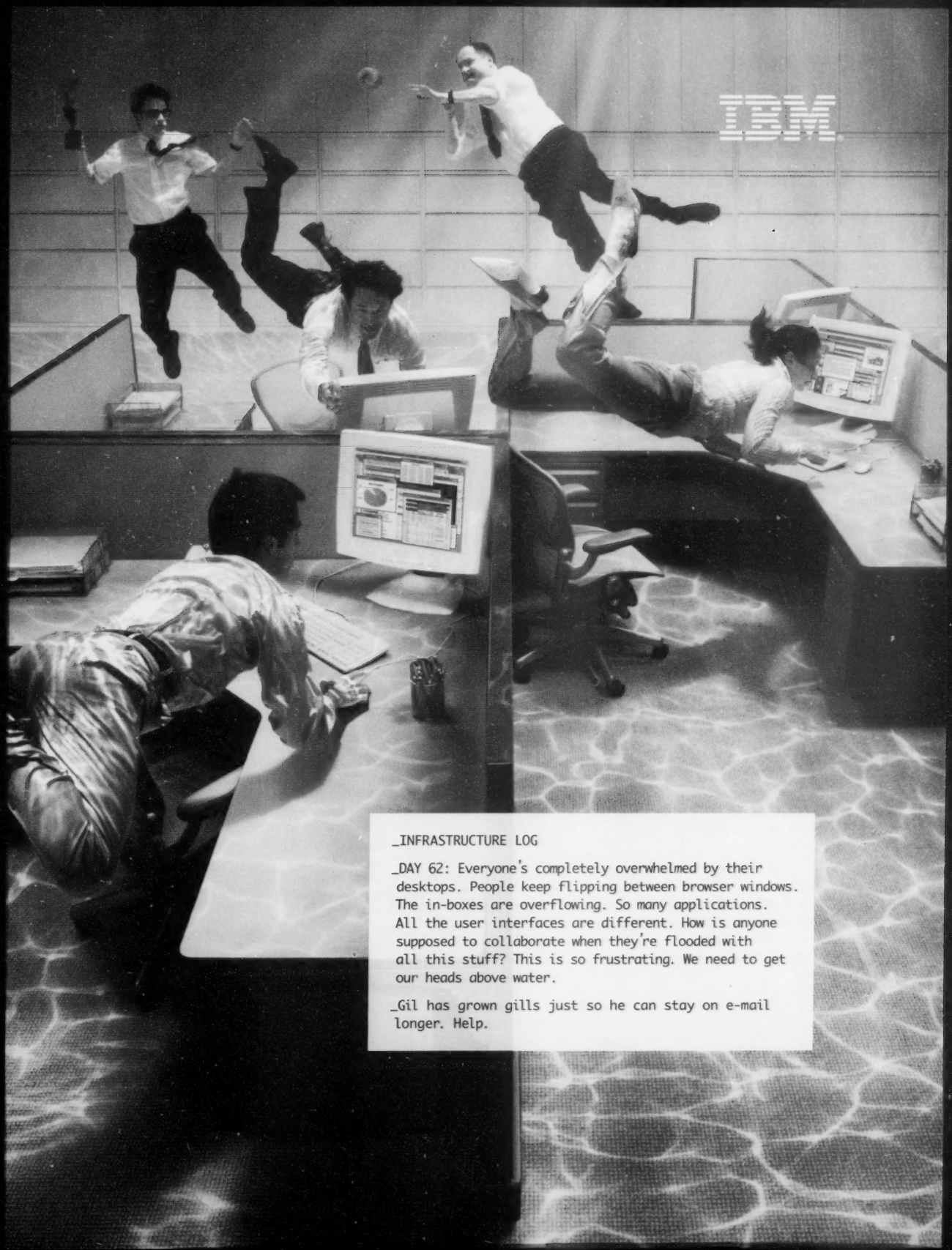
But Parziale's options for reselling the mainframe weren't good. He said that a state surplus auction would have drawn a limited buyer pool, while resale brokers offered him just $15,000.

So Parziale decided to list the z890 on eBay Inc.'s auction site for a minimum price of $30,000. The auction was completed Jan. 20, and he said the winning bid was submitted by a company in the Midwest. Parziale added that he doesn't know much about the buyer and that the sale had yet to be completed as of last week.

Corey Donovan, vice president of computer equipment reseller Vibrant Technologies Inc., said that instances of zSeries systems turning up on eBay are "pretty rare" – partly because of resale restrictions IBM puts on the systems.

Donovan wasn't surprised by the difference between the z890's original price and the winning auction bid. He said that a 90% decline in value over three years "is pretty typical."

– PATRICK THIBODEAU



_INFRASTRUCTURE LOG

_DAY 62: Everyone's completely overwhelmed by their desktops. People keep flipping between browser windows. The in-boxes are overflowing. So many applications. All the user interfaces are different. How is anyone supposed to collaborate when they're flooded with all this stuff? This is so frustrating. We need to get our heads above water.

_Gil has grown gills just so he can stay on e-mail longer. Help.

INTERNET

Microsoft Courts Yahoo To Help It Fight Google

IN OFFERING $44.6 billion in cash and stock for Yahoo Inc. on Friday, Microsoft Corp. executives openly acknowledged that the software vendor needs help competing against Google Inc. in the search and online advertising markets.

"This is a decision we thought about, and I personally thought about, very, very hard," Microsoft CEO Steve Ballmer said during a conference call. "The market continues to grow, and the leader keeps consolidating its position."

> **"The market continues to grow, and the leader keeps consolidating its position.**
> **STEVE BALLMER,** MICROSOFT CEO

Kevin Johnson, president of Microsoft's platforms and services division, added that combining Microsoft and Yahoo would create a "more competitive" alternative to Google than exists now.

In a statement, Yahoo said that its board would evaluate the unsolicited offer "carefully and promptly."

Guy Creese, an analyst at Burton Group, said he doesn't see Microsoft's bid for Yahoo as "a knee-jerk reaction" to Google's online dominance. "But," he added, "they are saying, 'OK, how do we win?' "

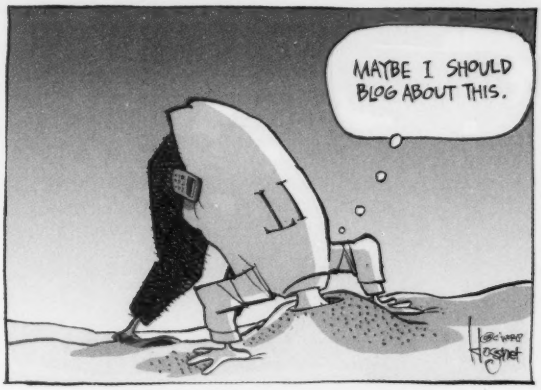
Microsoft's goal clearly is to prevent Google from becoming the unchallenged superpower of the Web, said Enderle Group analyst Rob Enderle. He predicted, though, that Google will try to block the deal on antitrust grounds or attempt to outbid Microsoft.

A Google spokesman said it was "premature for us to comment at this time."

In a blog post, Forrester Research Inc. analyst Rob Koplowitz said that Google has also "taken the mindshare lead" in the online business applications market. That "might pose a bigger ultimate threat to Microsoft than losing the search and advertising wars," he wrote, adding that Yahoo's massive and "extremely efficient" data centers could boost Microsoft's ability to deliver online apps to users.

— Todd R. Weiss and Linda Rosencrance

BETWEEN THE LINES *By John Klossner*



IT managers start thinking about Web 2.0.

BENCHMARKS LAST WEEK

A federal judge extended portions of Microsoft Corp.'s antitrust consent decree until November 2009 – two years beyond when government oversight of the company had been scheduled to end.

ChoicePoint Inc. said it has agreed to pay $10 million to settle the remaining portions of a class-action lawsuit filed over the data breach it disclosed in early 2005.

TWO YEARS AGO: General Motors Corp. awarded IT outsourcing contracts worth a total of about $7 billion to six vendors.

Global Dispatches

Australia Renews Push for Privacy

SYDNEY – Australian Privacy Commissioner Karen Curtis last week renewed her call that organizations be required to report all data security breaches to her office.

In a 786-page submission to the Australian Law Reform Commission, which conducts independent reviews of Australian laws, Curtis said the country needs to enact such laws to force organizations to secure their data.

"While reporting would need to be proportional to the severity of the breach, it would provide companies with a strong incentive to adequately secure their databases," Curtis said.

Curtis said the health care and credit-reporting industries should be subject to the most stringent security mandates.

The report also recommended that the Office of the Privacy Commissioner be granted audit power that would allow it, in specific circumstances, to conduct privacy assessments of private-sector organizations.
Sandra Rossi,
Computerworld Australia

Nokia Plans to Buy Open-Source Firm

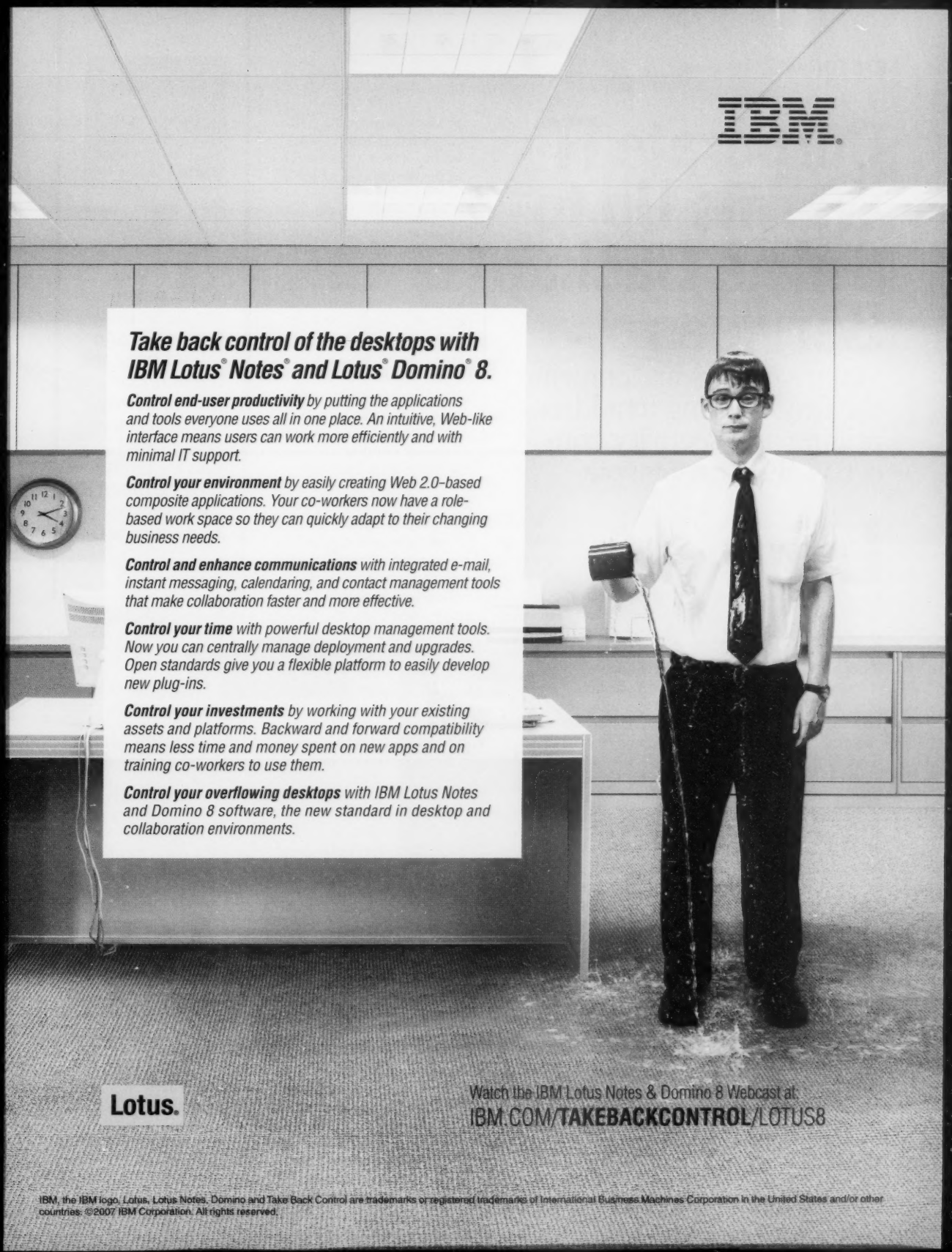
ESPOO, FINLAND – Nokia Corp. has agreed to buy Trolltech ASA, an Oslo-based provider of open-source development tools, for 844 million Norwegian kroner ($155 million U.S.) in cash.

Nokia said the acquisition will boost its software business. The telecommunications company, which is based in Espoo, also said that it plans to use Trolltech's expertise to improve the interfaces on its S40 mobile phone and S60 smart phone systems.

The deal is expected to close in the second quarter.
Peter Sayer,
IDG News Service

BRIEFLY NOTED

European Union regulators late last month agreed to approve IBM's $5 billion (U.S.) acquisition of business intelligence software vendor Cognos Inc. because it "would not give rise to competition concerns."
Robert McMillan,
IDG News Service



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Corporate IT Warms Up to Online Backup Services

Major vendors are entering the fray, seeking to address pricing and security concerns. By Brian Fonseca

LARGE BUSINESSES are looking more closely at online backup options as a way to ease systems administration headaches and avoid security concerns linked to physical backup procedures.

Analysts said they expect corporate interest in hosted backup systems to grow as major storage vendors enter the business and work to allay user concerns about pricing and bandwidth.

Walter Petruska, information security officer at the University of San Francisco, said the upfront cost and the IT overhead needed to manage physical backup for 1,300 devices under his control prompted the school to move to a subscription-based hosted backup option.

"If you asked me three or five years ago [about backup], the economics would say, 'Build it yourself,' " he said. However, as storage vendors enter the online storage business and work to address IT concerns, "I can't imagine anyone doing it themselves," Petruska added.

The university is in the process of implementing the MozyPro hosted backup service, which storage vendor EMC Corp. picked up in its $76 million acquisition of Berkeley Data Systems Inc. in September.

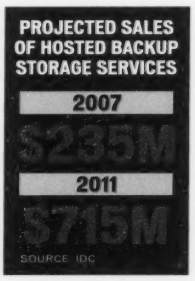
Late last month, EMC unveiled MozyEnterprise, which combines Berkeley technology with EMC tools, including RSA Security products, to provide subscription-based online backup and recovery services for Windows-based PCs and remote servers.

EMC and some of its key rivals are betting that their entry into the online storage business will expand interest among corporate IT managers looking to better deal with complex system and application infrastructures, noted storage experts.

Early online storage systems have targeted home and small-business users, analysts said.

Adam Couture, an analyst at Gartner Inc., said the technology is slowly becoming more attractive to large companies, thanks to moves into the hosted storage business by EMC and storage and backup rivals such as IBM, Iron Mountain Inc., Symantec Corp. and Seagate Technology LLC.

"In many instances, enterprises looked [down] at some of the [online backup] providers," Couture said. "Now you're starting to see big players get into the act. When EMC overlays [hosted backup] with encryption keys and authentication, it becomes much more palatable to businesses."



In fact, research firm IDC predicts that sales of hosted backup storage services will reach $715 million in 2011, up from $235 million in 2007.

Couture said that corporate interest in hosted storage services will likely grow quickly once the large storage vendors can come up with an acceptable pricing plan.

Vendors are also moving quickly to resolve bandwidth problems that can slow the process of sending corporate data over the Web to hosted servers, Couture said. He noted that EMC, for example, is trying to shrink the amount of data it sends over the Web by using de-duplication technology on its servers.

Petruska said that when the University of San Francisco completes its MozyPro project, departmental and faculty data now held in PCs and file servers will be stored online.

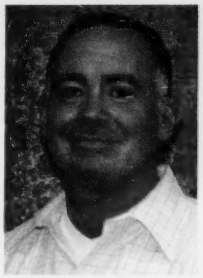
The school began shifting to online storage last year as part of an effort to centrally administer its PC and Macintosh hardware, he said. The school had previously used "four or five" backup products for the task, he added.

USF plans to eventually back up data from 1,300 devices online, but it won't be able to finish the project until EMC releases a Mac-

Continued on page 12

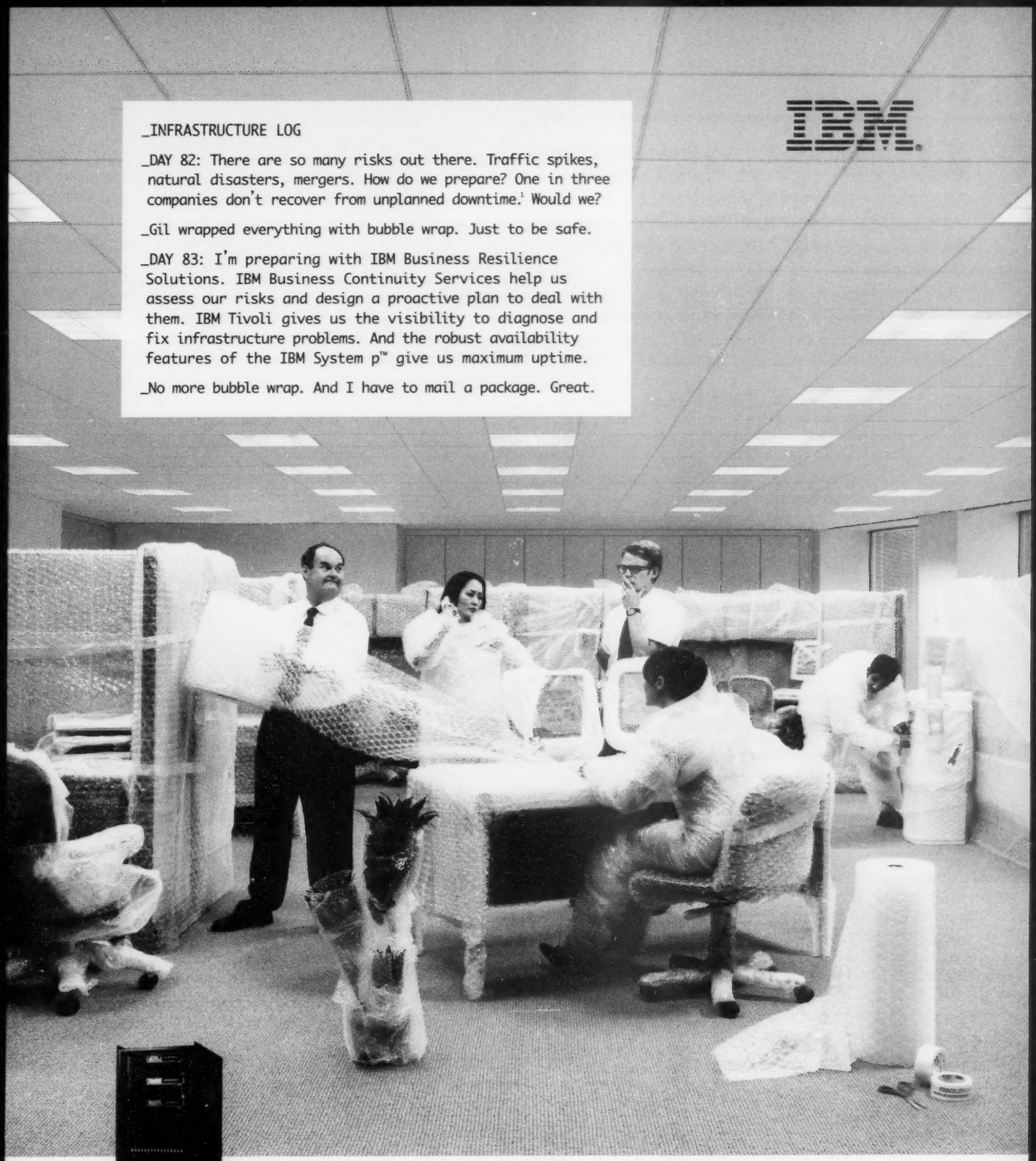
ONLINE STORAGE: PROS AND CONS

Pros	Cons
Save money on personnel	No standard pricing model
Save money on equipment	Data security concerns
No storage capacity limit	Bandwidth problems
No storage administrators needed	Few corporate users of hosted systems



"If you asked me three or five years ago [about backup], the economics would say, 'Build it yourself.' [Now] I can't imagine anyone doing it themselves.

WALTER PETRUSKA, INFORMATION SECURITY OFFICER, UNIVERSITY OF SAN FRANCISCO


_INFRASTRUCTURE LOG
_DAY 82: There are so many risks out there. Traffic spikes, natural disasters, mergers. How do we prepare? One in three companies don't recover from unplanned downtime.[1] Would we?
_Gil wrapped everything with bubble wrap. Just to be safe.
_DAY 83: I'm preparing with IBM Business Resilience Solutions. IBM Business Continuity Services help us assess our risks and design a proactive plan to deal with them. IBM Tivoli gives us the visibility to diagnose and fix infrastructure problems. And the robust availability features of the IBM System p™ give us maximum uptime.
_No more bubble wrap. And I have to mail a package. Great.
IBM.
Tivoli.
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[1]Source: "Business Continuity Unwrapped," Continuity Central, 2006, www.continuitycentral.com/feature0358.htm.

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> **"I'm not going to say [online backup] is cheap; it's not. We felt what we are paying for is really insurance against losing data. I used to cringe when anybody deleted a file and I had to find the tape.**
>
> **JOE SINKOVITS,** VICE PRESIDENT OF OPERATIONS AND COMPLIANCE OFFICER, LISLE SAVINGS BANK

Continued from page 12

intosh version of MozyPro, Petruska said. That version is currently in beta testing.

University officials expect the online backup effort to cut the amount of equipment and personnel needed for data backup chores, said Petruska.

"I had to devote full-time equipment and employees to do systems administration, data mining and backup to recover data," he said. "I needed specially skilled individuals."

Petruska also noted that USF officials feared that disks stored at the school could be damaged in a disaster. "In going with the outsourcing model, we got around a lot of those [issues]," he explained.

To date, USF has installed Mozy client software on 300 devices and is backing up more than 1TB of data online. The software provides 2GB of free storage to nonmanagement workers, including professors; 5GB to managers; and 20GB to top executives, Petruska said.

Online storage will not be offered to students, he added.

Meanwhile, the university has so far linked five departmental file servers to the online backup system, Petruska said. When the project is finished, 30 file servers will be linked to MozyPro, he added.

Petruska said the move to online storage will help USF implement new security policies that require all disks containing personal data to be encrypted. The free storage will allow the school's staff to forgo storing and encrypting that data on personal thumb drives or backup devices.

At least for the short term, the university's legacy applications and enterprise data sets — stored on disk arrays and backed up to tapes — will not be shifted to online storage, Petruska said.

He noted that USF is already in the process of installing an Oracle ERP system and officials don't want to undertake the two major projects simultaneously.

IDC analyst Doug Chandler said that significant online storage growth will depend on whether vendors really do address user concerns about pricing. Today, there is no standard pricing scheme for the offerings, making it difficult for potential customers to conduct cost-benefit analyses.

"As you move up in terms of business size, everyone is going to be looking at pricing," Chandler said. "Right now, it's challenging to do that" because there's no standard pricing scheme.

WORTHY TRADE-OFF

The pricing issue didn't deter Joe Sinkovits at Lisle Savings Bank from turning to online backup.

The bank spends $700 per month to use the eSure IT online backup service from Intronis Inc. Sinkovits, vice president of operations and compliance officer at the Lisle, Ill.-based bank, contended that the service reduces labor costs and boosts productivity compared with tape backup efforts.

"I'm not going to say [online backup] is cheap; it's not," said Sinkovits. "[But] we felt what we are paying for is really insurance against losing data. I used to cringe when anybody deleted a file and I had to find the tape."

Lisle Savings Bank has been using the hosted service for more than a year to back up bank forms, reports and applications each month, Sinkovits said. He said the bank turned to the online option when tape capacity could no longer keep up with rapidly growing data.

"I was not getting out of a warm bed at 1:30 a.m. to come in and change a backup tape. That just was not going to happen," Sinkovits said.

Amy Olson, IT director at Shannon, Gracey, Ratliff & Miller LLP in Fort Worth, Texas, said the law firm uses Seagate Services' Online Backup and Recovery Service to store all of its data off-site.

She noted that the move to the hosted service quickly blunted management concerns about disaster recovery in the tornado-prone area. The online option also ensures that backup tapes will not have to be stored by a vendor that could carelessly allow them to be lost or stolen.

"I think any [online backup] risks in 2008 are trumped by the fact that tapes just aren't secure," Olson said.

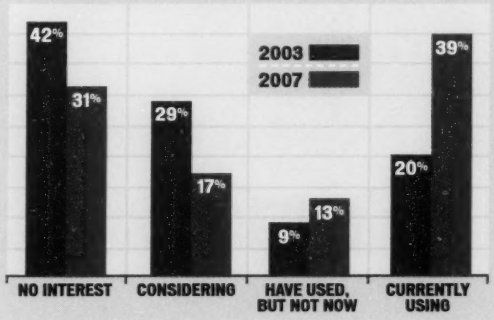
She also noted that the hosted backup option eliminated the need for remote non-IT employees to manage backup in the firm's branch offices across Texas.

Every night, the firm's Microsoft Windows Server-based data center backs up more than 300GB of encrypted data over a 12Mbit/sec. Internet connection from Internet service provider Time Warner Cable Inc., Olson said.

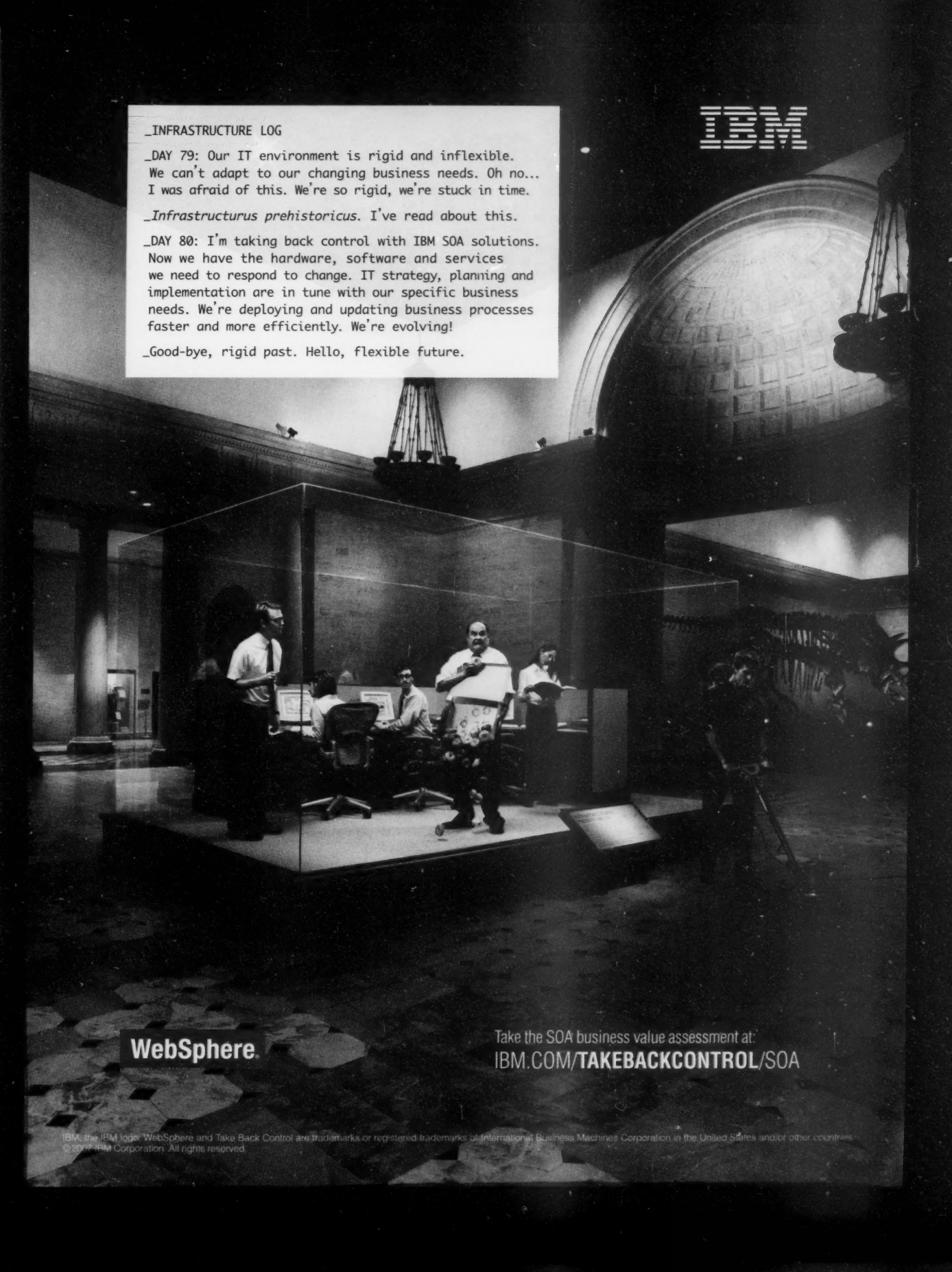
"I certainly would think [online backup] would be great for large enterprises," Olson said. "It's the wave of the future, if it's not already here." ■

Managed Backup Interest

Gartner surveyed 104 North American companies that use hosted storage products about whether they're interested in using online backup products.



SOURCE: GARTNER INC., STAMFORD, CONN.


_INFRASTRUCTURE LOG
_DAY 79: Our IT environment is rigid and inflexible. We can't adapt to our changing business needs. Oh no... I was afraid of this. We're so rigid, we're stuck in time.
_*Infrastructurus prehistoricus*. I've read about this.
_DAY 80: I'm taking back control with IBM SOA solutions. Now we have the hardware, software and services we need to respond to change. IT strategy, planning and implementation are in tune with our specific business needs. We're deploying and updating business processes faster and more efficiently. We're evolving!
_Good-bye, rigid past. Hello, flexible future.
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Cisco Puts Server, Storage Networks on Single-Switch Path

The vendor says its Nexus 7000 switches can support all data center resources on one Ethernet fabric. If it works, it could help users reduce IT costs. **By Matt Hamblen and Stephen Lawson**

CISCO SYSTEMS INC. last week broadened its push to play a leading role in the data centers of the future, introducing the first of a planned line of switches for supporting computing, storage and IP networks on a single Ethernet fabric.

Cisco said the initial 10-slot chassis version of the Nexus 7000 switch family will ship in the second quarter and offer users total bandwidth of up to 8Tbit/sec. Blade and rack-mounted models will be added later, and the bandwidth capacity eventually will be increased to 15Tbit/sec., according to Cisco.

The networking giant already controls about 70% of the switch market worldwide through its Catalyst series of Ethernet switches and its MDS 9000 devices for storage-area networks.

At first, Cisco will market the Nexus 7000 line for use with separate server and storage networks, reflecting current data center realities. But in the future, it hopes to turn the new switches into a single connectivity platform that will provide common I/O interfaces and support the emerging Fibre Channel over Ethernet standard.

Mark Drake, a network engineer at Health Management Associates Inc. (HMA) in Naples, Fla., said he's looking at the Nexus 7000 line as a possible way of "future-proofing" the health care provider's networks against demand from end users for more and more bandwidth.

HMA, which operates about 60 hospitals and clinics in 15 states, uses Catalyst switches that Drake said should be able to handle its connectivity needs for the next two years. But he added that with Nexus, "the capacity to grow is huge."

Drake said he also sees potential network management benefits from the new switches. HMA is trying to reduce IT staffing costs by consolidating systems from each hospital into two main data centers. A combined management interface for HMA's server and storage networks could further simplify administration, he said.

Ken Cooper, a senior technical consultant at EMC Corp. who is president of the Dallas-Fort Worth Cisco Users Group, was also impressed by the Nexus 7000's promised throughput capacity. "That's a pretty serious switch," he said.

In addition, the new line's support for virtualizing switches could help reduce floor-space needs as well as the number of switch hardware failures within data centers, Cooper said.

The Nexus 7000s will include a new operating system called NX-OS that has built-in virtualization capabilities, said Jayshree Ullal, senior vice president of Cisco's data center, switching and services unit.

That, she added, will enable users to partition the devices into multiple logical switches that can run different processes and be managed by separate administrators while sharing the same power supplies and other components.

The Nexus line's management interfaces will also be compatible with Cisco's VFrame Data Center, a tool announced last July for pooling computing, networking and storage resources into a set of virtualized services, Ullal said.

Zeus Kerravala, an analyst at Yankee Group Research Inc., said that the Nexus 7000 "sets a new bar" for data center switches. The new line can meet existing needs while also making it possible for IT managers "to implement a larger virtualization vision," he said.

In addition, Cisco is the only vendor with a product offering that can fully handle the role of being an "orchestrator" within data centers, Kerravala said.

But he noted that although many IT managers say they want to virtualize their data centers as much as possible, most of them aren't ready to do so yet.

"We're just entering the very early stages of the virtual data center," Kerravala said, adding that widespread adoption by users "is probably at least two years away." ■

Lawson *writes for the IDG News Service.*

HARDWARE FIRST TAKE

Nexus 7000 Series 10-Slot Chassis

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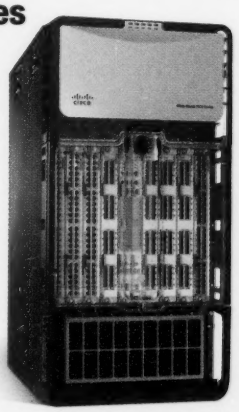
- Starts at $75,000, with typical configurations expected to cost about $200,000.



Advertisement

How to Protect and Improve System Performance

The Top Ten Points to Know about Fragmentation

IT professionals are heroes of the workplace. Whether with cunning wit or a Phillip's head screwdriver, they solve most any computer emergency. However, keeping a computer running at top speed is usually preventative maintenance instead of last-minute, adrenaline-surging, virus-vaccinating heroics.

Here are 10 key points to maintain peak performance across any network:

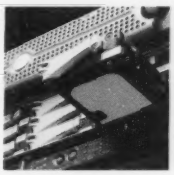
1. The hard-disk is the slowest part of any system. Say you are operating a 2.5 GHz processor. That's 2.5 billion operations every second. A large number of hard disks only spin at 7200 rotations per minute, or 120 cycles per second, or 120 Hz. This means your CPU is more than 20 million times faster than the hard disk. The hard disk still has mechanical components. Think *Terminator 2*®, when a mechanized Schwarzenegger is outclassed by the faster, smarter T-1000. When the slowest part of your computer is making unnecessary reads, the entire system is dragged down.

2. Fragmentation has severe affects. It's more than sluggish and crawling computer speeds; fragmentation leads to crashes, hangs, data errors, file corruption and boot-time failures. Files that suffer fragmentation are more difficult and take longer to back up. When systems are thoroughly defragmented, they run faster and more reliably—period.

3. Real-time defragmentation is necessary. Many companies rely on 24/7, mission-critical servers. Taking these systems offline for maintenance is not an option. But, having a server with I/O bottlenecks is also not an option. Only real-time, invisible defragmentation fixes this catch-22 situation.

4. Give your systems faster-than-new speeds. NTFS best-fit attempts for file placement on hard drives are limited. Diskeeper® 2008 comes with a new technology called I-FAAST™ (Intelligent File Access Acceleration Sequencing Technology)[1] that re-sequences your files. So, in addition to consolidating free space, defragmenting with Diskeeper boosts access to your most frequently used files by as much as 80%. I-FAAST gives systems faster-than-new speeds.

5. Servers are especially susceptible. While disk striping improves physical I/O capacity and performance, RAID and SAN systems simply do not fix fragmentation where it begins—at the file system. Enormous volumes with heavy read/write activity lead to astronomical fragmentation rates, making RAID and SAN work harder than they should. The efficiency of RAID and SAN may lessen some of the physical effects of fragmentation, but fragmentation is never eliminated. You'll need to buy more and more equipment to compensate. Sooner or later, the tortoise catches the hare, and your system suffers I/O bottlenecks and slow server speeds.



6. Operate without interrupting productivity. The new InvisiTasking™ technology makes software transparent. Diskeeper 2008 with InvisiTasking will work invisibly in the background; only using untapped resources. Systems are continually improved without any management or impact on a system's usability.

7. Defragment despite minimal free space. The purpose of defragmentation is to restore lost speed and performance. A defrag engine must be able to operate in limited free space, because drives with extremely limited free space are the ones in need of the most help. Diskeeper 2008 handles millions of fragments and can function with as little as 1% free space.

8. Stop fragmentation before it happens. Diskeeper 2008 comes with Frag Shield™ 2.0, a technology that automatically defends against fragmentation of critical system files. Frag Shield 2.0 prevents crash-inducing fragmentation. It's like Superman® saving the day—two days before there's a problem.

9. Auto-defrag breathes life into systems. It keeps systems at optimum speeds and eliminates fragmentation-related performance issues. Thoroughly defragging systems adds 2–3 years onto the hardware's useful life.[2]

10. Analyze your network's performance. Poor performance on a remote system can easily be mistaken for a slow network. Get Disk Performance Analyzer for Networks™. This free utility scans networked systems for fragmentation. See for yourself how fragmentation is affecting your systems. This groundbreaking program will provide comprehensive reports on how system speeds will improve with thorough defragmentation. Visit www.diskeeper.com/cw2 and get this free, must-have utility.

Diskeeper 2008 is the only fully-automated defragmentation program. It operates invisibly in the background and it dynamically adapts defragmentation strategies to fit the needs of individual volumes.

When systems are thoroughly defragmented, they run faster and more reliably—period.

With new defrag engines, Diskeeper 2008 restores performance on volumes with as little as 1% free space. Get rid of slows, bottlenecks, and fragmentation-induced crashes. Visit www.diskeeper.com/cw1

[1] Available on Pro Premier, Server and EnterpriseServer editions.
[2] See white paper at www.diskeeper.com/cwpaper

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On the Mark

HOT TRENDS ■ NEW PRODUCT NEWS ■ INDUSTRY BUZZ BY MARK HALL

MATTHEW FAULKNER

Mobility Onslaught Explodes

PALM DESERT, CALIF.

AT THE Demo '08 conference here, barrages of new mobility tools are being heaved at CIOs from every direction. Behind the attack are clever start-up companies targeting savvy end users, since, as LegiTime Technologies Inc. CEO Eric Strauss says, IT managers "have effectively handed over mobile choices to them." He claims that corporate IT lets employees choose their own handsets 65% of the time and pick their carriers nearly 85% of the time. Meanwhile, the employer supports and pays for the devices and services without having any effective control. Worse still, one of the applications most often used in the field is Short Messaging Service, which allows corporate data to be sent to who knows whom in clear text. Strauss hopes CIOs will take a close look at Westport, Conn.-based LegiTime's LegiText service. By next quarter, it will be able to encrypt SMS text, prioritize messages, cut out SMS spam, archive messages, and integrate with Outlook and Notes. "Your message in-box on your smart phone will start looking like your e-mail in-box," which will help users manage messages more effectively and improve their productivity, Strauss says. Currently, LegiText works only with Windows Mobile units with HTC touch screens. Pricing will start at around $30 per user per month.

60%
Portion of businesses that reimburse employees for mobile phones and services, says Frost & Sullivan.

Ribbit Lets You Hop Between Web, Phone

Mountain View, Calif.-based Ribbit Corp., mentioned here in December when it launched its telco-grade SmartSwitch software, showed a service called Amphibian that lets you hop between your mobile handset and a virtual cell phone on any Web page to make and take calls on your PC. According to Crick Waters, vice president of business development and strategy, Amphibian liberates voice from its traditional confines — devices and plans. "Amphibious" Web pages can include your contact lists, calling history and any other capability of your handset. Amphibian also has text-to-speech capabilities, so you can hear your e-mail over your phone (or read your voice mail on your PC).

$48.7B
Unified communication revenues by 2012, per Wainhouse Research.

One neat feature — Waters calls it CallerID 2.0, naturally — lets you gather information available online about a caller before you answer the phone. Based on that info, you could, for example, head to the caller's blog while you chat, or offer a well-timed birthday greeting. He says that because Ribbit makes its API available, IT can integrate Web-based workflow processes with the activities of workers in the field. Available in Q2, basic Amphibian services will be available to consumers for free. That means a lot of your employees will get to play with it, learn to depend on it and then toss it your way to help Amphibian jump into mainstream corporate IT.

Make Mobile Web Less Like 1995

Nitin Bhandari, CEO of Skyfire Labs Inc., says that using mobile browsers on smart phones is akin to using browsers in 1995: "It's mostly text and very slow." At Demo, he demonstrated his company's eponymous browser, which works with Web sites using streaming video, AJAX and even the latest release of Flash. Bhanu Sharma, director of product management at the Mountain View-based company, says Skyfire compresses and transports data in an efficient, proprietary format that shortens the response time for page downloads. The beta, due mid-month, targets consumers "because they're easier to reach," Sharma says. Ultimately, he contends, corporate IT will need to get interested, because smart phones will become power users' laptops. Skyfire will work on Windows Mobile devices when it's released. Symbian units are next on Skyfire's to-do list. ■

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PHOTOS BY GENE X. HWANG

■ THE GRILL

Craig Newmark

The **Craigslist founder** talks about **doing what he's good at**, living by **shared values** and **sticking with a simple tool** that works.

Dossier

Name: Craig Newmark

Title: Founder and customer service representative

Organization: Craigslist Inc.

Location: San Francisco

In high school, he was: A nerd. "I literally [wore] a plastic pocket protector and thick black glasses, taped together. I was a complete nerd. I had the social skills associated with the cliché. I'm different now."

Favorite vacation spot: "I don't know what the word *vacation* means."

Favorite recent film: The final cut of *Blade Runner*

Reaction to his celebrity: "If [people] think I'm a celebrity, they need to get out more. I tell them I'm a 'celebutant.' I'm the Paris Hilton of the Internet."

How did Craigslist happen? The effort started in 1994. I was at Charles Schwab, working on overall security architecture. While I was looking around at the Internet, I saw a lot of people helping each other out and thought that I should do something too. So in 1995, I began to e-mail a bunch of friends about art and technical events in San Francisco.

Over the months that followed, people kept asking if I could add the occasional job posting and listings for things to sell, too. Then I said, "Let's add apartment listings, too."

It was all done through a very simple e-mail, a cc: list. This is the sort of pattern we still have today: People suggest stuff to us, we do what makes sense, and then we ask for more feedback.

I left Schwab [for freelance work] around the same time I began Craigslist. I was going to call it SF Events, since it was still mostly events, but friends told me that they already called it Craigslist, that I had created a brand unintentionally and that I should keep calling it that because it was personal and quirky.

The thing just kept growing. Later on in 1995, I remembered that I was a programmer and that I could turn code into HTML, so I would be able

"We're pretty much not really changing. We do one thing well, and we don't want to screw it up.

to do instant publishing. It suddenly occurred to me that I could write code and that I could make Craigslist into a Web site where the code would do most of the work for me.

How did things develop from there? The first three years of Craigslist, I ran this by myself, and it somehow built critical mass. At the end of 1997, [we] hit a million page views a month. Then the folks from Microsoft Sidewalk wanted to run banner ads on the site, and at market rates, that would be all the money I needed to live. [But] I figured, "Hey, I'm an overpaid programmer, I don't need the money, and many banner ads are pretty dumb," so I decided not to run them. And the third milestone [was] a few people approached me about running Craigslist on a volunteer basis. I tried that in 1998, where we would all work together on a volunteer basis. We tried it, but it failed. Things just didn't get done. It just started slowly dying.

How did Craigslist survive that tumultuous period of experimentation? Well, when I'm committed to something, I'm committed. Then, at the end of 1998, some people approached me and helped get me out of denial about what was going on, and then I made Craigslist into a real company in the beginning of 1999. I did a mediocre job at best, because I'm not very good at the business end of the operation. I had the first ideas about it, but most of what we do is based on what people in the community suggest. Fortunately, in 2000 I hired a guy named Jim Buckmaster. He's turned out to be a natural manager, and he does a great job with it.

How does the company make money? The idea is that we're a community service. Almost 100% of the site is free, but we do charge for job postings in 11 cities. We charge for apartment listings in New York City.

Why only in New York City? The apartment brokers who we charge asked us to charge them because they figured it would cut down on the perceived need to post and repost the same places and get rid of some of the scammers. The principle behind this — in 2000, I asked a lot of people, "What's the right way for us to pay the bills, and maybe do better than that?" People told us to charge people who already paid too much for less-effective ads. Specifically, the consensus was, it was OK to charge employers and recruiters and to charge apartment brokers and real estate agents. And so we've done that, but only a little.

And this makes enough money for your 25 San Francisco-based employees to get their paychecks? Right. It ain't bad. We just do what feels right and plug away.

Your official title is founder and customer service representative. Why is that? Jim is a much better CEO. And my skills are not management skills. However, I'm a really good customer service representative. I'm part of a customer service team, and we handle things like cases of abuse from users of the Web site.

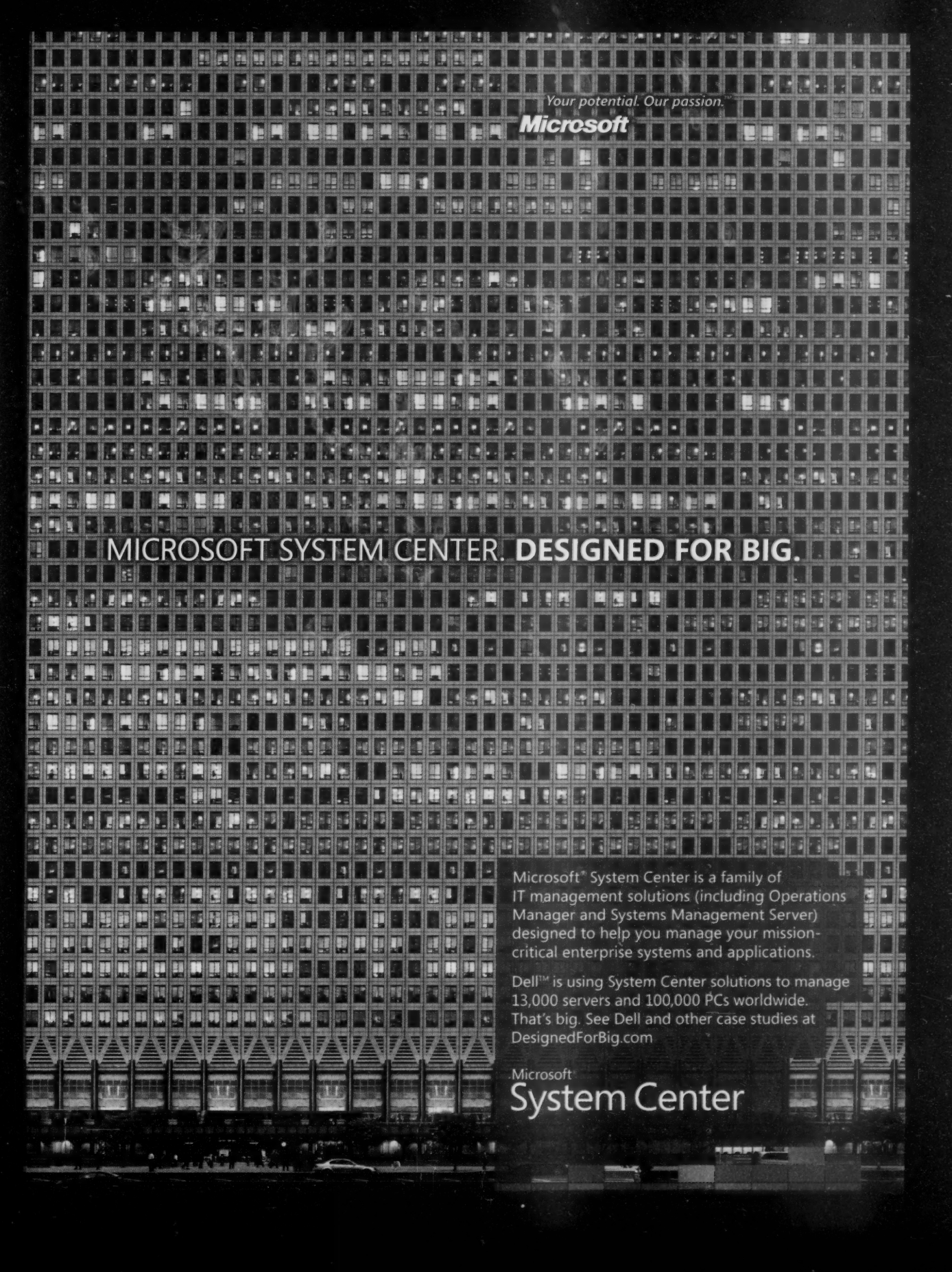
Five years from now, what do you see changing at Craigslist? Where else can you take this? It's going to be more of the same, more cities, more languages. It's now in English, and we've recently introduced Spanish, starting with Madrid. We're just starting. We have to improve technologies, like multicity search. In some cases, we need to be able to search in nearby cities rather than doing multiple searches. We always need to improve customer service. For example, we need better tools to detect and remove spam listings.

One thing we found doing customer service is that there are not that many bad guys out there. However, the bad guys make a lot more noise.

Will we ever see a massive redesign of the Web site from the white, mostly text-based listings to something with more pizzazz and color? We're pretty much not really changing. We do one thing well, and we don't want to screw it up. And regarding our look and feel, someone said that our site has the visual appeal of a pipe wrench, and that was intended and taken as a compliment. We don't need much new fancy stuff in general. We need tools that get the job done.

Why has Craigslist been so successful? We were an early mover doing what we do, and it does help that the site is almost all free. We think we have a really good culture of trust, and that's because without consciously doing so, we have stood by some core shared values. The fundamental value is that we feel you should treat people like you want to be treated, which means that you provide good customer service, and it means that you should have a "live and let live attitude," and it means that now and then you give the other person a break. These are values that most everyone in the world shares. And there's nothing noble or altruist or pious about this; it just feels right.

— *Interview by* **Todd R. Weiss**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CONCERNED ABOUT soaring energy costs, IT organizations have begun to make significant changes to how their data centers are powered and cooled. But many IT departments haven't yet looked at saving energy throughout the rest of their companies' IT infrastructures.

That's shortsighted. Although data centers may use more power per square foot, as a percentage of total power consumption, office equipment is the big kahuna.

"Office equipment has become more highly featured and powerful than ever before, but there's an energy cost to that," says Katherine Kaplan, who manages the U.S. Environmental Protection Agency's Energy Star consumer electronics and IT initiatives.

"If you look at overall power consumption, you're seeing almost double for computers and monitors than for data centers," says Jon Weisblatt, senior product manager of the power and cooling initiative at Dell Inc.

Verizon Wireless is one company that's saving plenty of green by going green. Earlier this year, the wireless carrier deployed 1E Ltd.'s NightWatchman power management software, which is designed to put desktop computers and monitors in offices, stores and call centers into power-saving mode after a period of inactivity, overriding any personal settings. Another 1E product, SMSWakeUp, can "wake up" those machines to deliver patches and updates after-hours and then shut them down again when the process is complete. "It saved us [money] just turning computers on and off on demand," says CIO Ajay Waghray.

Waghray also replaced 7,000 PCs in 10 Verizon call centers with power-sipping Sun Ray thin clients from Sun Microsystems Inc. and began a companywide migration to LCD monitors. The managed thin clients use 30% less energy than the nonmanaged PCs, says Waghray. He estimates that the power management and thin client initiatives combined have decreased the cost of front-office power consumption by $900,000 annually.

To Waghray, going green is good business. The projects were good for customer service — off-hours patch-

ILLUSTRATIONS BY SERGE BLOCH

9 Tips for A Leaner, Greener Desktop

Energy efficiency isn't just for the data center. Here's how to cut back on power and expense in the front office.

By Robert L. Mitchell

ing and the more reliable thin clients improved uptime and reduced trouble-ticket volumes by 50%. "To make things more efficient, simple and customer-focused, green becomes a very important factor," he says.

There were an estimated 900 million desktops in use worldwide in 2006, according to market research firm IDC. Even if all of those units were Energy Star 2006-compliant, they would still consume 426 billion kilowatt-hours of power annually.

If all of that equipment met the 2007 Energy Star 4.0 specification, power consumption would be 27% lower than it would be under the 2006 guidelines, according to Marla Sanchez, principal research associate at Lawrence Berkeley National Laboratory. That would save enough energy to power all of Switzerland for nearly two years and cut greenhouse gas emissions by about 178 billion pounds.

Do you want to reduce some of those emissions — and save a lot of money in the process? Here are five tips on saving resources and increasing the efficiency of front-office equipment.

1 DO AN ENERGY AUDIT

It's hard to know where you stand if you don't first measure the efficiency of the equipment you have.

Fortunately, doing a power audit of ordinary office equipment is easy. A simple, inexpensive meter that fits between the target device plug and the outlet can measure current loads and cumulative power consumption.

If you select a device with a usage pattern that's typical for your office, you can multiply the results across the entire population of similar equipment to quickly estimate total power consumption. From there, all you need to do is multiply use in kilowatt-hours by your local electricity rates, and you've got a baseline for savings.

Meters include basic models such as P3 International Corp.'s Kill A Watt or Sea Sonic Electronics Co.'s Power Angel, and more-advanced units like the Watts Up Pro from Electronic Educational Devices Inc. Watts Up Pro stores data and includes software for graphing that data to show watts, volts and kilowatt-hour consumption over time.

Move Data, Not People

A GREEN OFFICE is about more than using energy-efficient equipment. Applying IT to support telework and teleconferencing can make both people and businesses more efficient.

Several hundred call center employees at Cox Communications Inc. recently began working from home four out of five days each week. Using a browser and their own home computers, remote staffers access a suite of applications hosted on a Citrix Presentation Server back end.

Call center workers download a browser plug-in and then authenticate to the system. "We can present the entire environment to any computer anywhere. We even stream content to employees for staff meetings," says Josh Nelson, vice president of information and network technology.

By rotating teleworkers into the office on different days of the week, Cox has cut computer equipment and cubicle space needs and avoided a building expansion.

Employees benefit, too: In an era of $3-a-gallon gasoline, they like the voluntary program because it saves four commutes each week and takes several hundred cars off the roads each day. "It's been quite impressive from a cost perspective [and] what it does for the environment," Nelson says.

Terremark Worldwide's hosting business requires lots of travel, including frequent trips between its main offices and its hosted data center facilities two hours away. But it recently deployed videoconferencing systems from Tandberg ASA to tie together conference rooms in those facilities.

"It helped us avoid about 20% of the travel we were doing before," says George Bandin, vice president of information systems and technology. "Just within our own facilities, it's a huge savings in fuel and time."

– ROBERT L. MITCHELL

When a power audit at Geiger Brothers Inc. revealed that computer equipment was consuming nearly as much power after-hours as it was during the day, it became "a driving force behind initiatives to get power consumption down," says Joe Marshall, a business systems analyst and software specialist at the Lewiston, Maine-based maker of promotional products.

2 ADOPT AND ENFORCE POWER MANAGEMENT

"The biggest impact you're going to make in your overall computing environment is to get systems to go to sleep," says Weisblatt. For example, a laptop that uses 14 to 90 watts in full operation uses less than 1 watt in standby mode. Desktops consume even more, and a single CRT monitor may use upward of 90 watts in operation mode.

Most companies aren't managing power settings in a coordinated way, however, and many desktops don't have power management turned on at all. "We do all this work to make [computers] optimized for power management, and we find big corporations go and make changes and deoptimize it," says Howard Locker, director of new technology at Lenovo Group Ltd. The issue is that IT must do extra work to integrate and test Lenovo's bundled software, and many organizations don't want to take the time to do that.

Some corporations, however, are starting to get the message. Network administrator Keith Brown deployed LANDesk Software Inc.'s LANDesk to manage — and lock down — power settings on all laptops, desktops and attached monitors at Gwinnett Hospital System in Lawrenceville, Ga.

Like SMSWakeUp, LANDesk takes advantage of Intel Corp.'s vPro Active Management Technology (AMT), a feature built into its vPro series of processors that supports remote management. It enables LANDesk and similar tools to remotely awaken or turn on PCs, upload updates and turn them off again, Brown says.

Lenovo recommends configuring employee laptop disk drives to spin down after five minutes of inactivity, setting monitors to go blank at 10 minutes and configuring the machines to go into standby mode after 20 minutes.

Verizon's Waghray says he had no trouble enforcing power-saving settings. Machines power off at 12:30 a.m. and go back on at 5:30 a.m. Desktop monitors and hard drives go into power-saving mode after two hours. On thin clients, monitors and processors go into low-power mode after 20 minutes of inactivity.

At Geiger, things were different. "There's been a little bit of pushback, so we're taking baby steps," Marshall says. His users don't like hibernation, he explains, so he only sets monitor timeouts — and they aren't triggered until there's been an hour of inactivity.

3 DUMP THOSE CRTS

Replacing older computers and peripherals with Energy Star-rated equipment can save energy and space, and the decreased power consumption can significantly reduce the need for cooling in office areas. Start with CRT displays. "The biggest offenders are the monitors," says Brown.

Most businesses have already begun phasing out CRTs in favor of more-efficient LCDs, which use about one-third of the power, but there are still plenty of CRTs waiting to go.

Energy savings can add up. Brown estimates that replacing about 70% of Gwinnett's CRTs with LCD monitors and using automated power management tools has already saved the health care company $30,000 to $60,000 a year in electricity costs.

4 SLIM DOWN THE CLIENT

As for the desktop, look for equipment that is Energy Star 4.0-compliant. Previ-

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TRBA

Continued from page 22

ous Energy Star ratings looked only at low-power modes, but "with this new version, we're comparing energy use while working," the EPA's Kaplan says. Computers that meet the standard consume 20% to 50% less energy than those that meet previous Energy Star standards, she says.

Compact PC models, such as Lenovo's ThinkCentre A6le desktop or Dell's Inspiron 531, are more power-efficient than standard desktops and save space as well. (The A6le is about the size of a 3-inch-thick notebook binder.) Compact PCs may use as little as half the power of a desktop. They also include Energy Star 4.0-mandated high-efficiency power supplies that are at least 80% efficient, as well as low-speed fans that reduce noise levels.

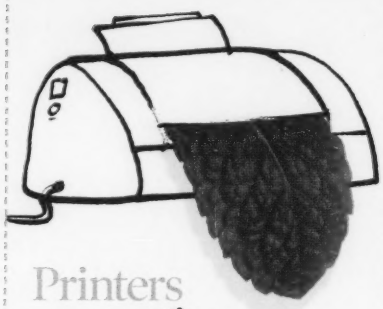
Jenny Craig Inc. is moving to a thin-client setup, enabling the company to replace desktop PCs with personal workstations that are easier to manage. Thin clients use less power and space, since they have no disk drives or fans, and the Windows session and applications run on the server.

For the Carlsbad, Calif.-based weight loss services company, which chose to use thin clients from Wyse Technology Inc., the need to reduce noise levels was as important as the desire to save energy.

"When you throw 10 or 12 PCs into a front desk, you can't hear your customers anymore," says Alessandra Nicoletti, director of IT operations. So she equipped 484 Jenny Craig centers with Wyse thin clients that don't need fans. As for the energy savings, operating power consumption ranges from 6 to 35 watts, and power settings can be locked and remotely managed. The system uses 90% less energy than the PC-based setup it replaced.

Although replacing PCs with thin clients and a presentation server requires adding servers on the back end that boost power demand, the savings on the desktop more than make up for that, says Jeff McNaught, chief marketing officer at Wyse. With the 64-bit edition of Presentation Server running on the back end, three 800-watt servers can accommodate 1,000 PCs. That's about 3 watts per client, he says.

Waghray says thin clients had other benefits in Verizon's call centers, where equipment density is high and space is at a premium. "We have seen a reduction in cooling needs for the whole building," he says.



Printers are getting smarter about when to go into low-power mode.

For all their energy-saving benefits, thin clients won't work in every case. Northrup Grumman Corp.'s space technology sector is rolling out 3,000 thin clients and has tested 39 engineering applications. While most of the programs ran just fine on the thin clients, a few graphics-intensive ones didn't work, says Clayton Kau, vice president of engineering.

Other companies have encountered user resistance. Gwinnett Hospital System has dabbled in thin clients but has stalled at around 100 terminals because many employees prefer to have fully equipped desktops that run their applications locally.

5 PRINT MORE EFFICIENTLY

Desktops and laptops aren't the only areas where IT can improve efficiency. Printers tend to be kept longer than PCs, but each year new models bring greater efficiencies.

Hewlett-Packard Co. claims that the energy efficiency of its printers improves 7% to 15% with each new generation. Therefore, replacing older units with new, Energy Star-labeled models can cut energy costs by as much as 25%.

New technologies are also improving efficiency. For instance, last spring, HP began replacing the fluorescent tubes used for photocopying with LEDs in some products. The technology uses 1.4 times less energy during copying and one-fourth the power when idle, according to HP.

Printers are also getting smarter about when to go into low-power mode. Multifunction printers from Xerox Corp., for example, monitor printer-usage patterns over time in order to decide when to power down and bring the machines online.

Both Jenny Craig and Terremark Worldwide Inc. have configured printers to output double-sided pages by default. While using duplex mode doesn't save energy, it does avoid unnecessary paper use, says Jorge Bandin, vice president of information systems and technology at Terremark.

Administrators can configure duplex printing across all printers, invoke power-saving modes, or configure machines to shut down during specific evening or weekend hours using automation tools available from various printer vendors.

Consolidating and better managing printers and other peripherals also saves energy and money. According to Forrester Research Inc., an individual copier, printer and fax machine can consume 1,400 kilowatt-hours of power annually, but a multifunction printer (MFP) consumes half that amount.

Even so, says IDC analyst Keith Kmetz, "for every MFP out there, there are [still] six or seven printers."

MFPs, which combine copying, printing, scanning and faxing, offer additional efficiencies. Terremark, for example, uses them with j2 Global Communications Inc.'s eFax service to route incoming faxes to e-mail instead of a printer.

There's no one-size-fits-all solution for energy-efficient computing, says Waghray. But the best options will be those that complement the business by simplifying processes, making staffers more efficient and improving customer service.

Even if green isn't the goal, he says, it is a means to those ends. "Start to think about [green computing] as something that's pretty much part and parcel of what you're doing anyway," he says. ■

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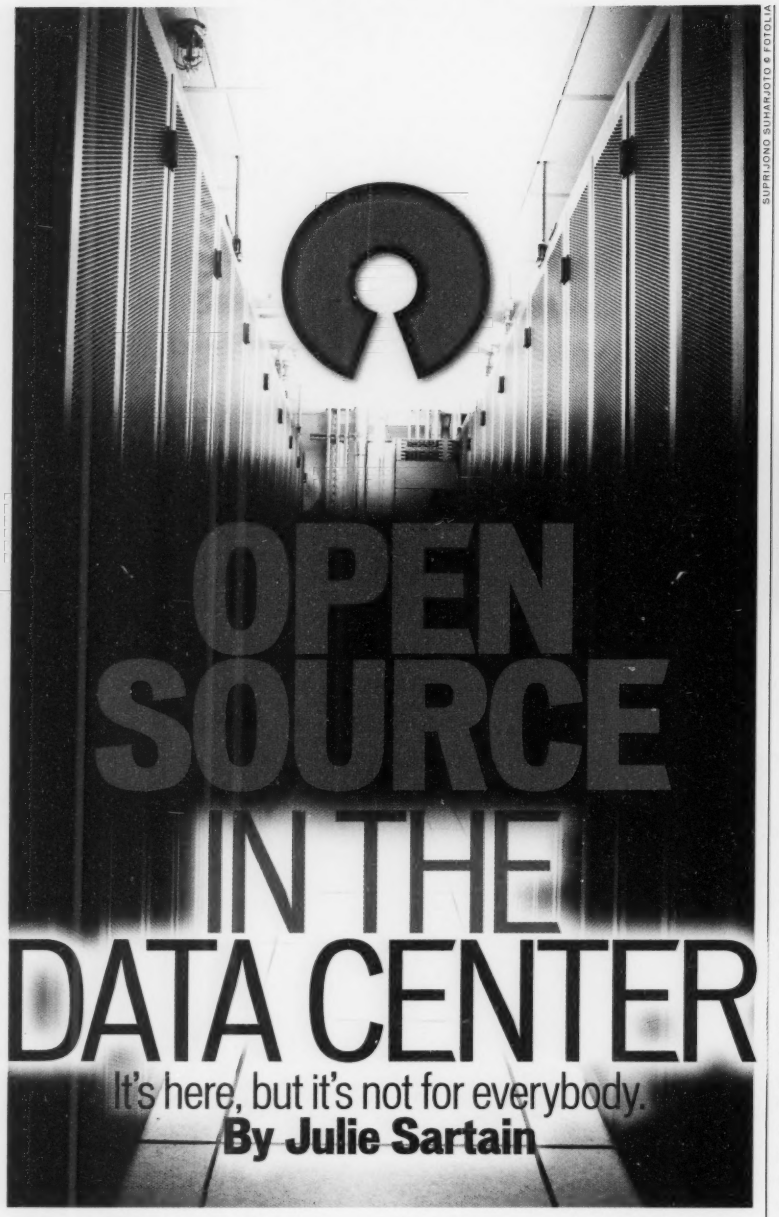

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OPEN SOURCE IN THE DATA CENTER

It's here, but it's not for everybody.

By Julie Sartain

MANY COMPANIES are using Linux, Apache and other open-source software to power Web and file servers, but when it comes to managing the data center, most have held back.

That hasn't stopped Sabre Holdings Corp., a travel marketing and distribution technology company in Southlake, Texas. Around 5,000 of Sabre's servers run open-source software, and half of those servers are in its Tulsa, Okla., data center. "These products have now reached a level of maturity which is equal to and, in some cases, better than their commercial counterparts. And they will only get stronger from here," says Robert Wiseman, chief technology officer at Sabre.

Wiseman says that open-source products help level the IT playing field by forcing commercial vendors to compete on price and quality of service rather than on some intangible feature of their own proprietary offerings. The code is open and transparent, making it easier for developers to troubleshoot problems and learn how others have addressed certain issues. Users gain the freedom to use these products across their organizations, all over the world, without worrying about things like tracking seat licenses.

So, what's holding all those other companies back?

> **For us, it had to be low cost *and* high quality.**
> ROBERT WISEMAN, CTO, SABRE HOLDINGS CORP.

"It's true that with open-source products, users generally forfeit the security of professional support teams to help resolve their problems quickly," says Wiseman. But to address that issue, he says, "in our environment, we almost always purchase support for our open-source products from high-quality vendors."

This reduces some of the cost advantages of using open source, he says, "but the advantages are big enough that there's still plenty left over, and the security we get from a service contract lets us sleep better at night."

The company uses enterprise service buses for message transformation, routing and other tasks. Sabre is deploying an open-source-based ESB within multiple systems, including its Supplier Side Gateway product, which is used by all Sabre systems that need content from external sources. Sabre also uses open-source applications such as version control tools called CVS and Subversion, the Eclipse Java development environment, a unit-testing framework called JUnit, and Hibernate, a tool for object-relational mapping to abstract services from the underlying database calls.

Sabre started using open-source products about six years ago, mainly

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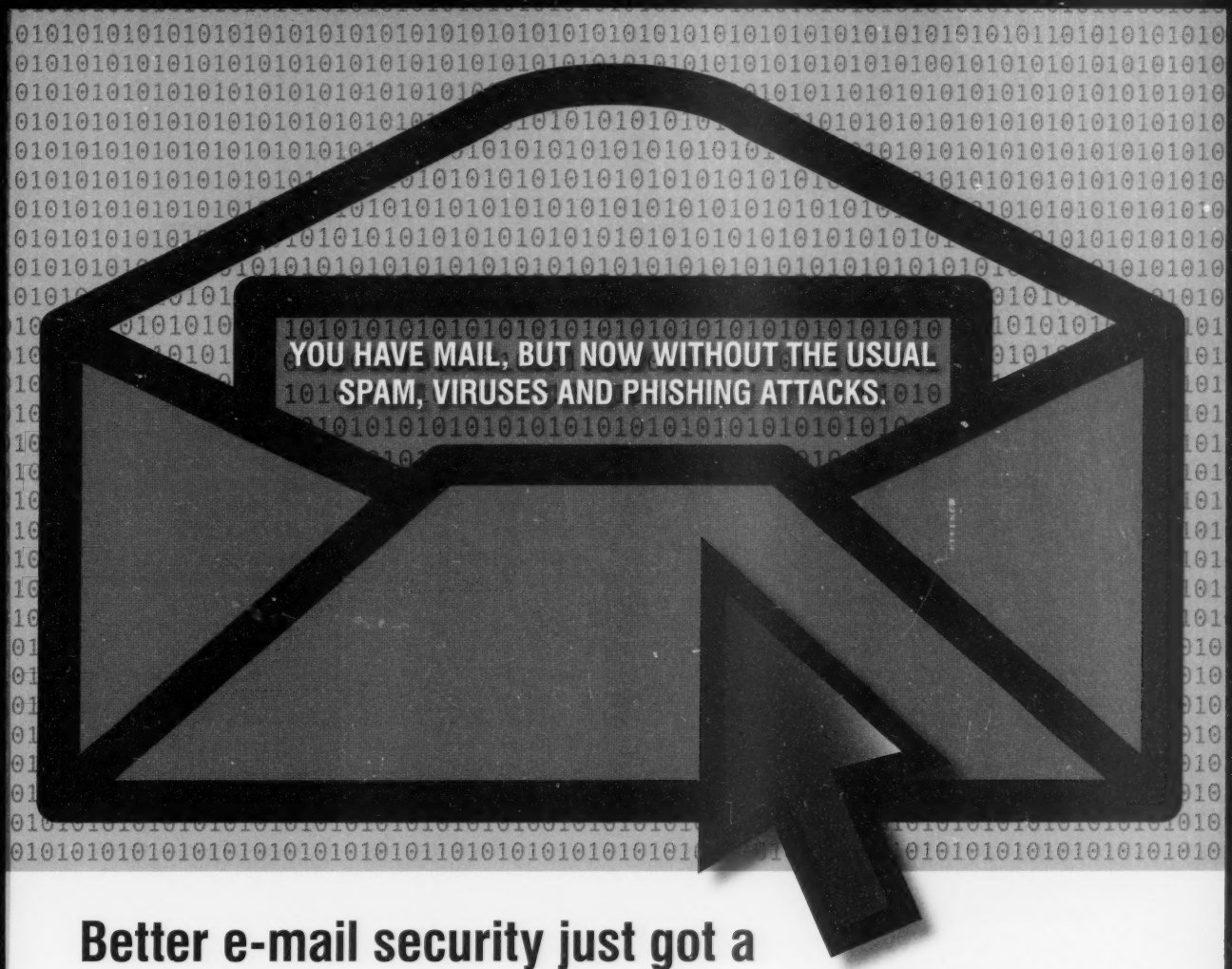

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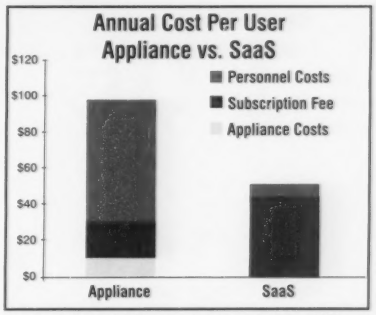

Sources: Software & Information Industry Association 2006, and Gartner 2007. For specific details, visit www.webroot.com/saas.

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Continued from page 26

because of the lower cost. But Wiseman says that stability and high performance are his most important requirements. "For us, it had to be low cost *and* high quality," he says.

READY OR NOT

Forrester Research Inc. advises its clients who are considering open-source tools to examine the so-called ecosystem around a particular product — the pool of developers, forums, paid support and commercial versions — to determine if there's enough support available. It notes that if an open-source project has, say, 700 developers and a good ecosystem, then it's a better risk than a proprietary product from 20-person start-up company.

But some still advise caution. "Apart from lower pricing, there are limited gains at the moment," says Rakesh Kumar, an analyst at Gartner Inc. Users must be particularly careful about security, he adds.

Opus Interactive, a managed services and application hosting company in Portland, Ore., offers open-source load-balancing and firewall projects for clients with limited budgets, says Jeremy Sherwood, business solutions executive. "We looked at Packet Filter and found that running PF on OpenBSD or FreeBSD is an excellent option and one we are confident is solid and secure," he says.

For its larger clients, Opus uses commercial firewall and load-balancing

LIBERTY, NOT PRICE

" 'Free software' is a matter of liberty, not price. To understand the concept, think of *free* as in 'free speech,' not as in 'free beer,' " says Nicholas Kottyan, CEO of DataChambers LLC, a technology and management information services company in Winston-Salem, N.C.

Patrick Craig, director of operations and engineering at DataChambers, adds, "Free software is a matter of the users' freedom to run, copy, distribute, study, change and improve the software."

More precisely, notes Craig, it refers to these four kinds of freedom:

- To run the program for any open-source purpose.
- To study how the program works and adapt it to your needs.
- To redistribute copies so you can help your neighbor.
- To improve the program and release your improvements to the public so the whole community benefits.

"The open-source concept is about the ability to see and modify the code, to take an idea from one programmer, expand on it, learn from it and continue to add to the product," Kottyan explains. "This process has made many open-source projects more feature-rich, stable and affordable than their commercial counterparts."

– JULIE SARTAIN

The bulletproof vest of the IT action hero.

appliances from Global Technology Associates Inc., Cisco Systems Inc. and Array Networks Inc., Sherwood adds.

TRADE-OFFS

Dave Gynn, director of enterprise tools and frameworks at Optaros Inc., a Boston-based consulting and systems integration firm, says open source "absolutely" fits into the data center.

"Open-source software excels in heterogeneous environments," he says, noting that it gives users the freedom and flexibility to control their own systems. That means that with an open-source platform, they can fix problems quickly, determine their own upgrade cycles, make smarter deployment decisions and more easily integrate their systems. Companies that use open-source programs can customize the software to fit their needs rather than changing their procedures to accommodate an off-the-shelf product, Gynn says.

But the trade-off is increased responsibility for IT staffers and systems engineers. "If customers use 100% open source, they must determine if they have the in-house skills and persistence to sustain the solution over the life cycle of the project," says David Link, CEO and founder of ScienceLogic LLC, a Reston, Va.-based company that sells systems and network management appliances that are based on proprietary code.

And sometimes an open-source project can start off with a bang and then simply go off the radar, leaving users stranded, he says. So when choosing open-source software, Link says, "be sure it actually has a strong track record of consistent innovation and rapid delivery of patches/fixes."

"Open source means *free* as in freedom, not *free* as in cost, although it often is," says Dirk Morris, CTO and founder of Untangle Inc., an open-source development firm in San Mateo, Calif.

Morris says that the flexibility, reliability, security and ease of adoption of open source are far from free. "Be aware that open-source products are often not a complete product offering," he says. The quality of open source varies widely, he adds, so choose carefully.

"There is always a cost involved — either a support cost to the vendor, or an internal cost of management," says Gartner's Kumar. He warns clients that they need to recognize that some applications are better suited for open source than others. Look at the availability and manageability requirements of each application, then verify whether the open-source system can work with your existing environment, he says. And take a realistic view of the cost difference.

In fact, cost is not the major factor at Opus. "We often look to open-source projects as a way to get our feet wet with a specific technology so we can see if a product type meets our needs and the needs of our clients without spending money on the corresponding commercial solutions," Sherwood says.

Bottom line: For now, most observers believe that open source will coexist with proprietary packages in the data center, but it's unlikely that they'll replace commercial products anytime soon. ■

Sartain *is a freelance writer in Utah. She can be reached at julesds@comcast.net.*

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THE 5 USERS FROM Hell

Difficult IT customers can drive you crazy – here are some tips on how to deal with them. By Lisa DiCarlo

AH, TECHNOLOGY USERS! We sure do love them. Why, most of us wouldn't have jobs without them. But that doesn't mean users don't drive IT crazy sometimes, or maybe most of the time.

IT customers represent a broad spectrum of personalities and roles, from administrative assistants to CEOs. But the truth is, user behavior tends to follow certain patterns regardless of industry. "I don't care what the business is," says Anthony McCloud, an IS help desk technician at Mac Equipment Inc., an air-filtration manufacturer in Kansas City, Mo. "Users are always the same."

So, what are the difficult-user archetypes, and what's the best way to handle them? Here are five of the most common.

1 THE KNOW-IT-ALL

He knows a little HTML, and he defragged his hard drive once, so now he thinks he knows more than you. He often refuses to follow policies and instructions and has been known to poke his head into the server room "just to see what you're up to."

The Know-It-All often insists on doing things his own way. He changes settings on his PC just because he can, and he connects devices and downloads software that IT doesn't support.

How to handle: "Sometimes I'll get really technical on them to see if they know what I'm talking about," says Dan Olson, IT director at Farstad Oil Inc., a subsidiary of SPF Energy Inc. "If it's false bravado, they'll catch on pretty quick that they don't know what I'm talking about, and [they'll] concede that I do know more than they do."

Some IT help desk pros lock down the Know-It-All's computer so he can't do extensive damage. Others say if he's really trying to learn, empathizing with him actually does the trick.

Whatever path you choose, IT managers advise, don't lose your temper. But that's easier said than done with this type of user.

2 THE KNOW-NOTHING

This is that clueless user who looks in vain for the "Any" key when his computer prompts him to "hit any key." Meet the Know-It-All's polar opposite, the Know-Nothing. This person knows so little about technology that he requires hand-holding for even the simplest tasks. He demands attention and may need multiple visits for help, managers say. Also, he's frequently unable to articulate problems on the phone or over e-mail.

Know-Nothings like routine and often appear terrified of change. Once one has learned a program or task, he's hard-pressed to adapt to a new or different way. He gets freaked out by things like unfamiliar icons or new tool bars.

How to handle: Here, too, a little empathy can go a long way, though it may be hard to put yourself in the position of a user with no technical proficiency whatsoever, says Kenneth Lauderdale, a flight test engineer for the U.S. Navy who supports Navy users part time.

McCloud says he tries not to get frustrated with his less-daring users but instead tries to empower them to learn about technology and not be afraid of their computers. "A good IT staff offers training, documents with screenshots and, yes, holds hands" when needed, he says.

3 MR. ENTITLEMENT

Often heard uttering the phrase, "Do you know who I am?" this particular user comes in a variety of subspecies. He may be the CEO, who (let's face it) genuinely *is* entitled, or he may be a peon in marketing who thinks he's entitled simply because you're in customer service and he's not.

Mr. Entitlement is always on deadline with a super-important project, which means he thinks it's OK to demand your immediate attention, even when you've got one foot out the door on a Friday night. He's also likely to ask you to skirt established procedures.

How to handle: Delicately. A user in a position of importance can make your life difficult. When dealing with a senior executive, it's almost always in your best interest to drop what you're doing to fix a problem, support professionals say. It can also be prudent to cater to the needs of users lower on the corporate totem pole if higher-ups agree that the situation is critical.

John O'Keefe, system support technician at Chicago-based Oxxford Clothes Inc., sometimes finds that Mr. Entitlement doesn't think it's his job to do things like run Windows updates when instructed to do so. "How do I deal with them? It depends on how [bleeped] off I want to make everyone," he says, only partly kidding. If O'Keefe sucks it up and does the update for the user, he makes a mental note to be sure the favor is returned someday.

THE ANGEL

You might think IT help desk pros would define their Dream User as the one they never hear from. But you'd be wrong.

"If I never hear from someone, that probably means they're fighting through something that's ruining their productivity," says Dan Olson, IT director at Farstad Oil. In contrast, one of his more experienced remote users called him after encountering an error message while replacing a video card. "She wanted to know why that happened. Her desire for knowledge really tickled me," he says.

Kenneth Lauderdale, a flight test engineer for the U.S. Navy who also supports Navy users, describes his Dream User in similar terms: "They take the knowledge you give them to solve one problem and are able to apply it to another problem."

"My Dream User is someone who actually listens to what I say," says Anthony McCloud, an IS help desk technician at Mac Equipment. "I don't mind if people call a lot, but listen to what I'm telling you and follow through. Take notes if you have to, and don't be afraid. Be as receptive and respectful as I've been to you."

– LISA DiCARLO

4 THE FINGER-POINTER

He never thinks (or at least, never admits) that he's in any way to blame for any of his problems — you are.

When his systems are slow, he assumes that IT must have screwed something up. His lost or misplaced documents and forgotten passwords must be the help desk's fault. And yep, his misdirected print jobs and lost e-mail folders are all part of a vast IT conspiracy to mess up his workdays.

How to handle: You can't win battles with a Finger-Pointer, so don't try, help desk staffers say. He'll never back down.

Lauderdale suggests neutrality, even if you have to feign it. "I try to say something like, 'Yeah, this software stinks,' " he says. That may disarm the Finger-Pointer and help him understand that users and help desk staffers are on the same side.

5 THE TWENTYSOMETHING WHIZ KID

This person has dozens of freeware applications on his computer, along with three IM clients and a passel of unauthorized open-source software, and he knows how to use a proxy Web site to bypass the company firewall.

The Whiz Kid is like the Know-It-All, except that the he actually *does* know something about technology. You can engage him in technical debates and ask him his opinion on whether non-GPL software can be dynamically linked to GPL libraries.

How to handle: Try to simultaneously embrace the Whiz Kid's enthusiasm while keeping a lid on his technological adventures, managers advise. However cute and capable he may appear, don't allow him to run amok on your network.

The Whiz Kid can actually be a help to you, though, if other users are willing to ask his advice before calling the help desk. Olson says he relies on his technically savvy users to help remote people he can't physically reach. "But you have to be careful not to push them beyond their limits," he warns. "They can make a mistake." ■

DiCarlo *is a freelance writer in Newton, Mass.*

Potentially, Relief From Adminisdribble

Just when our manager thought she might **drown in unfinished projects,** an offer of help appeared. Could this **really work?**

IF YOU'VE read my column a few times, you probably know that I hate what I call "adminisdribble" and that I pretty much wish there were two of me. My clone and I would at least stand a better chance of making headway with the many challenges and unfinished projects that face me this year. Admittedly, things must be pretty bad if I've begun to see cloning as my best way out.

I have had some other ideas. I've thought about unloading some of my management responsibilities so that I can focus purely on security projects. But unload them on what person? My boss values my management skills, and he isn't going to let me resign as the manager so I can be a security engineer.

I've thought about resigning altogether, with the hope that the agency would miss me so much that it would hire me back as a contractor. It's a nice fantasy, but the state's hiring freeze makes that option unrealistic.

As it turns out, there might be another way. A savior may have ridden to my rescue.

Out of the blue, one of my senior people asked me whether he could take on some supervisory responsibilities. I really wish I had a picture of my face at that moment. I had to restrain myself from shouting "Yes!"

He wants management experience. I'd love the help, of course, but I don't want him to sign on without understanding just what he'd be getting himself into. So I explained that most of what I do, day in and day out, is handle personnel issues, deal with management types, foster a customer service attitude, write reports, update project plans, answer questions, travel to the district offices, and be the face of IT and security for the agency.

My description of all this adminisdribble didn't scare him off, but I was still worried that he wouldn't be inclined to keep up with all the paperwork. He has never been one for writing status reports. I told him that I would need him to do his least favorite thing — prepare status updates — on a regular basis.

■ I can't stop fantasizing now about being able to geek out in the security lab all day.

Did he really understand what he was asking for? Yes, he assured me, he was up to it.

HOPING FOR THE BEST

In the end, I agreed to talk to management about his promotion. I said I couldn't promise anything, though, in light of our recent budget cuts.

My next step is to convince my boss that this promotion would be in the best interests of the agency. To do that, I'll need to infect him with the excitement that I feel about this prospect. That much should be easy. I can't stop fantasizing now about being able to walk into the security lab in the morning, shut the door and geek out all day long. I'll try to sell this idea as our only hope of influencing the security posture of the agency in a positive way.

It helps that I've already told my boss that we're stretched too thin to even think about taking on any new projects. He understands, but like me, he'd like us to be able to do everything that we've planned and budgeted to do. And then there are the things that the legislature has approved. When the legislature says to do something, we darn well better do it. But as things stand now, it won't be easy. Here, though, is something we can try that won't cost a lot of money and could help us get our projects back on track.

If this does get approved, we'll have to work out a lot of details. It really wouldn't be beneficial to just bog a new supervisor down with every chore I hate. He has a list of unfinished projects nearly as long as mine. But I'm sure that sharing the load is going to make it easier for both of us to get through our to-do lists.

I don't know yet what will happen with this proposal, but for the first time, I am hopeful that 2008 will be a year of real accomplishments. ■

This week's journal is written by a real security manager, **"C.J. Kelly,"** *whose name and employer have been disguised for obvious reasons. Contact her at mscjkelly@yahoo.com.*

Trouble Ticket

AT ISSUE: There's no time to do all the projects that are lined up.

ACTION PLAN: Get the boss to let someone help with supervisory duties.

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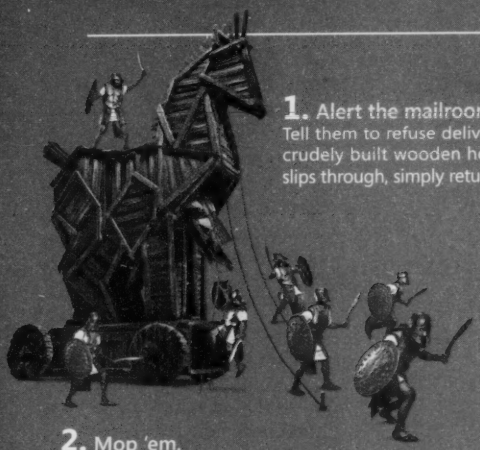
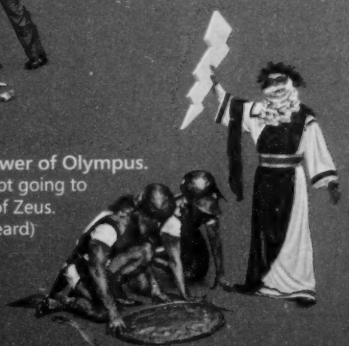


1. Alert the mailroom.
Tell them to refuse delivery of huge, crudely built wooden horses. If one slips through, simply return to sender.

2. Mop 'em.
A dirty mop—the dirtier the better—thrust face-ward is really gross. Who knows where that mop's been?

3. Use what's at hand.
A garbage can, dumped over the head of a Warrior, will disable him to painful and hilarious effect.

4. Unleash the Trojan teddy bear.
Fight their giant phony gift filled with Warriors with one of your own. Finding Warriors is tough, but not impossible.



5. Summon the power of Olympus.
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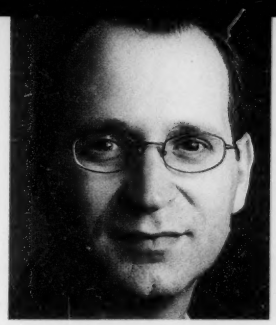
■ OPINION

Paul Glen

Fixing – or Fixing in Stone?



TECH PEOPLE are steeped in the ways of problems. It's one of the fundamental organizing principles behind nearly everything we do. We find problems, define them, analyze them and solve them. So it's not surprising that when we move into managerial roles, we view ourselves as management problem-solvers. We fix people problems. And that's often where the problems begin.

Managerial issues usually first manifest as some sort of crisis: A project deadline is missed, a budget is blown, a client or user is unsatisfied, or a business process is broken. And, as good problem-solvers, we start looking for solutions.

Often, these solutions involve some sort of process or policy. For example, if the breakdown was caused by a client's failure to share information in a timely manner, we require the customer to submit requests in writing two weeks before they need a service or product. If a client doesn't like the way a system works, next time we ask him to physically sign off on the requirements before any work begins on implementation. If IT staffers have delivered unintelligible memos to clients, we require that the authors submit them for editing before distribution.

These may seem like reasonable solutions, but in these examples, are the problems actually solved? I think that these approaches merely treat the symptoms rather than resolve the real issues at hand.

If customers aren't submitting requests in a timely manner, there could be several underlying causes. They may hold IT staffers in low esteem and either be deliberately trying to annoy them or, more likely, consider IT's time to be less valuable than their own and see no reason to give more lead time.

The customer group may not understand the priorities or workload of the IT group, either. Or they may not know their own needs long enough in advance to make timely requests.

■ We fix people problems. And that's often where the problems begin.

But forcing a rigid timeline for formalized communication doesn't ameliorate poor relationships between the two teams or improve planning. It just annoys people and feels bureaucratic.

If a client doesn't like the way a system works at delivery, he probably never really understood his own needs completely in the first place. Forcing him to sign off on requirements probably won't help him to better understand what he's trying to accomplish with the next system or envision how the business process will flow. Often, requirements don't become entirely clear until users have a chance to play with a real system or at least a prototype or mock-up.

And if your IT staffers are delivering documents in poor condition, either they are poor writers or they don't feel that it's worth their effort to write well. While external editing can help (I know my editors at *Computerworld* are a great help), poor writing is usually the result of unclear thinking rather than an inability to string words together. Editors can't think for writers, but they can encourage them to think for themselves.

These typical types of solutions not only treat symptoms while ignoring the real issues, they actually reinforce the problems, making them more enduring and intractable than before. Policies mandating how and when to communicate usually result in formalized and narrow communications between groups rather than relationships based on mutual understanding and trust. Formalized requirements can't guarantee business value. And heavy-handed editing usually causes writers to stop proofreading their own material. Why bother if someone is going to do it for you?

When addressing managerial problems, always ask yourself, "Am I fixing the problem (as in resolving it), or am I fixing the problem (as in engraving it in stone)?" ■

Paul Glen *is the founder of the GeekLeaders.com Web community and author of the award-winning book* Leading Geeks: How to Manage and Lead People Who Deliver Technology *(Jossey-Bass, 2003). Contact him at info@paulglen.com.*

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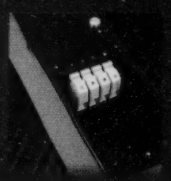

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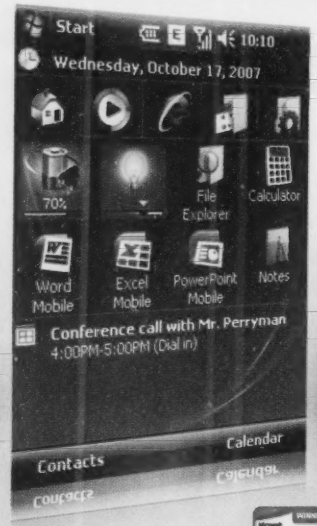

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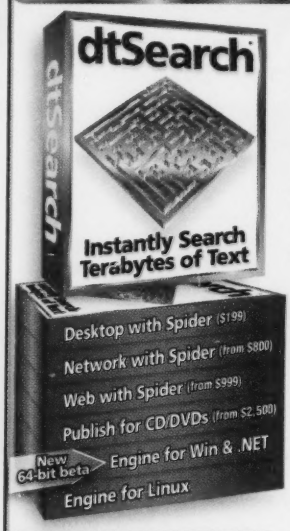
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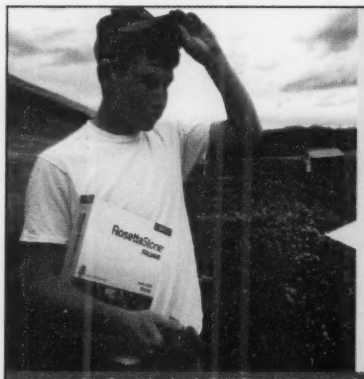

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SOURCE: INFORMATION SYSTEMS GROUP SURVEY OF 2,842 OFFICE WORKERS, AUGUST 2007

Les Misérables

The "three signs of a miserable job," according to author Patrick Lencioni in his book of that name:

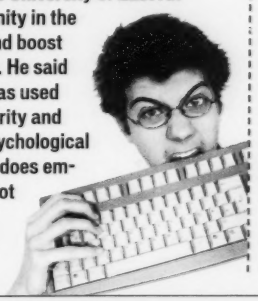
ANONYMITY: The feeling that your manager has little interest in you as a human being and knows little about your life, aspirations and interests.

IRRELEVANCE: The feeling that your job doesn't make a difference in the lives of others.

IMMEASUREMENT: The feeling that you cannot assess for yourself your contributions or success and that your manager is of little help.

Some #@&% Academics Will Study Any *$%# Thing

Network configuration taking longer than you imagined? Go ahead, turn the air blue. That's the advice of Yehuda Baruch, a professor at England's University of East Anglia, who led a study on the use of profanity in the workplace. Swearing can ease stress and boost team spirit, according to Baruch's study. He said the researchers found that "swearing was used as a social phenomenon to reflect solidarity and enhance group cohesiveness, or as a psychological phenomenon to release stress." Baruch does emphasize, however, that workers should not swear in a "negative, abusive manner," and it's best to clean up your language around customers and managers.



■ Q&A

Scott Marean

The **vice president of IT** at brokerage R.J. O'Brien & Associates discusses **career aspirations.**

I have a master's in computer science and work in data communications and networking. Would an MSCE add value to my résumé? Certifications never hurt. Very few employers require them, but most look at them as nice to have. If anything, they show your prospective employer that you are very interested in the topic and put in the effort to pursue an industry-recognized level of expertise. The MSCE, of course, is Microsoft-centric, which will mean more to some IT shops than to others. However, in the end, it's usually your practical work experience in a certain technology (not classes or certifications) that means more to an employer than anything else.

For the past three years, I have been an IT administrator for a civil engineering firm with about 20 employees. I install and maintain software and hardware, work on problems with computer equipment, and update the company's Web site. I have also become pretty familiar with networking equipment like switches and firewalls and am somewhat familiar with Windows Server 2003. My bachelor's degree is in communications. I would like to continue working in the IT field, since that is what I love to do, and I'm leaning toward a job in networking, systems administration or IT security. Would pursuing a degree be better at this point, or should I just get certifications? I don't have a whole lot of spare time. Will my bachelor's degree hinder my opportunities for other jobs or more money? Many companies require a bachelor's degree for professional career-level IT positions, and they don't usually specify that it must be in an IT-related field. With three years of practical work experience under your belt already, certifications are probably the fastest way to earn the credentials that prove you really know the technology. Also, coming from a jack-of-all-trades position at a small company, you may find it difficult to get into a more specialized role at a larger company without the additional credentials.

I have a bachelor's in IT, which includes some CS courses. Since I am interested in a leadership role someday, should I be pursuing an MBA, a master's in the management of technology or a computer science/software engineering degree? The answer depends upon what you mean by leadership role. Having both a technical bachelor's degree and an MBA would certainly be an advantage when pursuing a leadership role like CIO. We've been hearing about issues with IT-business alignment for years, and having an MBA will give you the perspective and vocabulary to relate effectively with your business-leader peers. A master's in the management of technology would probably be useful for a midlevel management or project management role in IT. And a computer science/software engineering degree would probably be most useful if you are pursuing a much more technical (and less business-oriented) leadership role, like enterprise application architect.

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Shark Tank

TRUE TALES OF IT LIFE AS TOLD TO SHARKY

About That Long

LAN admin has just returned to his desk in the "geek area" when this desktop support pilot fish notices something. "A few weeks earlier, the LAN group installed a collection of big monitors on the wall," fish says. "The monitors were connected to PCs that indicated graphically all the servers on our network and color-coded them green if they were up and red for down. I looked up and noticed a server was down on one of our networks. I called back to the LAN guy to tell him that one of his servers was down. He looked up at the monitors, and concern was written all over his face. Then he asked, 'How long was the server down before you noticed it?' "

Another Satisfied Customer

This IT pilot fish works for a small county office, and that means his job duties, um, expand as required. "I was sitting at my desk and a member of the public walked in to hand me an old motherboard and a greasy old trackball," says fish. "He figured maybe we could use them. Then he asks if we have an old hard drive we're getting rid of. I explained that we have to wipe them prior to disposal and that I didn't have any ready to go. But in the interest of politeness, I implied that we could let him know if we ever did. I asked him for his e-mail address. Turns out he doesn't have Internet access. Along the way, he mentioned that he's a computer programmer, so I asked him what languages he writes in. His reply: 'XP.' Oooookay . . ."

What's It All About?

Upset student: "I can't find my instructor's files on the intranet. Where is it?" College computer lab pilot fish: What's the folder name you're trying to access? Student: "The it folder." What? "The *it* folder!" Sighs fish, "After reading her course instructions, I explained that she needed to access the *IT* folder – that's short for 'information technology.' "

Lifetime Repair

Pilot fish gets an off-the-clock call about a friend's wife, whose 2-year-old twins have just stuffed the DVD drive on her husband's laptop full of Yu-Gi-Oh trading cards. "Knowing it would cost a bundle just to have someone look at it, I told her to bring it by," says fish. "I spent a couple of hours taking the laptop apart to remove all the cards from the drive and put it back together again. Pretty self-satisfied, I returned the laptop and got a big thanks from her. I recently found out that my fix-it job lasted only a few days – just after that, someone spilled wine on the laptop, ruining it. They couldn't bring themselves to tell me."

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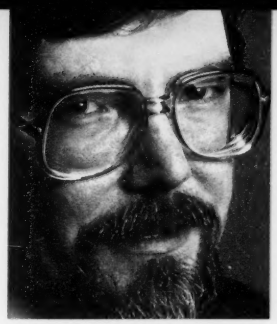
■ FRANKLY SPEAKING

Frank Hayes

Fragile Internet



IT'S USUALLY CALLED "backhoe fade." Not this time, though. Last week, two underwater communications cables were accidentally cut near Alexandria, Egypt. Internet service was disrupted throughout the Middle East and North Africa and as far away as India. The apparent cause? A simple foul-up: misplaced ship anchors that ripped up the cables in the Mediterranean Sea.

The result? Well, that's the interesting part: Nobody panicked.

Sure, there were problems. Thanks to "boat anchor fade," Internet connections and phone service were reportedly slow or flaky in India, Pakistan, Egypt and Persian Gulf countries. One Indian association of ISPs estimated that bandwidth was down by at least 50%, according to Reuters. In Cairo, many business users were completely cut off from the Internet, and one stock-market trader told a reporter, "At times, we were trading blind."

But in what's arguably the most trigger-happy part of the world today, no one started shooting. During a month of wild stock-market swings, financial markets didn't collapse. Telecom companies rerouted around the problems as well as they could. Banks and businesses struggled along. Users complained and made do.

And they'll have to continue making do for up to two weeks, until the cables between Egypt and Italy can be fully repaired.

Understand, this isn't some backwater where Net access doesn't matter. The Internet is every bit as critical to businesses across the Middle East as it is in the U.S. But when the Internet went down, everyone just worked around the problems.

Which is pretty much the way we do it here, too.

Sure, we hear users scream when the Internet disappears or suddenly grinds to a near-standstill. Help desk phones ring off the hook. Trouble tickets pile up.

But nobody panics. They'd better not, because fiber-optic cable cuts happen almost constantly along the tens of millions of miles of networks in the U.S. And most of those cable cuts literally live up to the "backhoe fade" nickname — they happen when cables are dug up by heavy construction equipment.

■ All it took to cripple the Internet was a ship or two anchored in the wrong place.

Some outages are small and annoying. Some are big and disruptive. Either way, we howl at our network providers, point to service-level agreements and figure it's their problem. And for now, it is.

But cables will keep getting cut. And while users today adapt and adjust, tomorrow that may not be so easy.

The more we integrate and automate supply chains, the more we put ourselves at risk by relying on a fragile global network. Human users can figure out what to do when the Net goes down. But on their own, servers and applications won't.

We're building systems that rely on an unreliable network. So far, we've gotten away with it. As we peel people out of our processes, that becomes much riskier.

The solution? We can't rid the world of backhoe fade, boat anchor fade and everything else that just might sever a fiber-optic cable.

And we're not going to stop automating our global business processes or pushing highly adaptable, panic-resistant people out of the loop.

That leaves only one option: building systems that can recover gracefully from this kind of network failure on their own. Not by mysteriously grinding to a halt, not by dumping automated transactions into the bit bucket, but by cleanly handling a downed Internet.

Yes, that will require retrofitting and refactoring. It'll cost more and require more work.

But we've just received another reminder of why we have to do it.

Remember, all it took to cripple the Internet in the Middle East was a ship or two anchored in the wrong place.

And that's the kind of foul-up that'll never fade away. ■

Frank Hayes *is* Computerworld's *senior news columnist. Contact him at frank_hayes@computerworld.com.*

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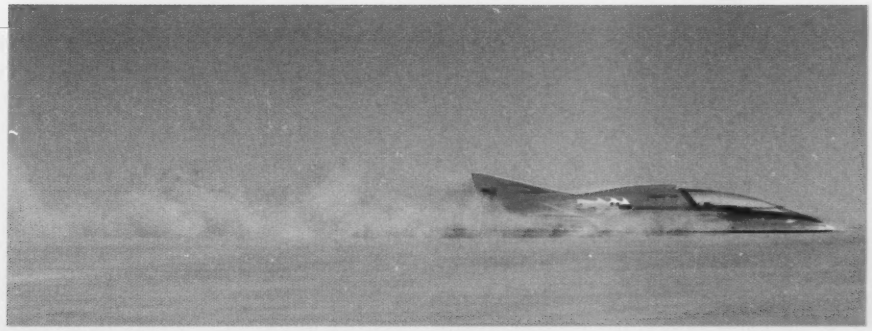

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